

**Social Marketing Plus for Diarrheal Disease Control:
Point-of-Use Water Disinfection and Zinc Treatment
Project
(POUZN)**

**Annual Report to USAID
October 1, 2009 – September 30, 2010**



In association with:
Population Services International

Abt Associates Inc



USAID
FROM THE AMERICAN PEOPLE

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INTRODUCTION

The Social Marketing Plus for Diarrheal Disease Control: Point-of-Use Water Disinfection and Zinc Treatment (POUZN) Project's objective is to mobilize the private sector for the prevention and treatment of diarrhea through the introduction and scale-up of point-of-use (POU) water disinfection and zinc treatment products.

This Annual Report is organized by the four major tasks associated with the implementation of the POUZN contract. These include: 1) Work/Business Plan Development, 2) Field Implementation, 3) Global/Technical Leadership and 4) Monitoring and Evaluation. The final section presents a summary budget for the activities described in the workplan. This report covers the period of October 1, 2009 – September 30, 2010.

Table 1 below provides a summary of the key outputs for the Year Five workplan and their status.

Table 1: Output Summary for Year 5

ACTIVITY	STATUS
Task One: Work Plan and Business Plan Development and Reporting	
Workplan Development and Semi-Annual Reporting	
<ul style="list-style-type: none"> ▪ Year 5 workplan finalized ▪ Year 4 Annual Report submitted and approved ▪ Year 5 Semi-annual Report submitted and approved ▪ End-of-project report submitted and approved ▪ Sustainability Plan completed ▪ Workplan for zinc promotion activities in Pakistan submitted and approved 	<ul style="list-style-type: none"> ▪ Year 5 workplan submitted and approved ▪ Year 4 Annual Report submitted. ▪ Semi-Annual Report submitted and approved ▪ To be completed by November 30 ▪ Included herein. ▪ Workplan for Pakistan submitted and approved
Task Two: Program Implementation	
POUZN POU Water Treatment Programs	
Introduction of Aquatabs in Bangladesh	
<ul style="list-style-type: none"> • Approval for non-pharmaceutical distribution received 	<ul style="list-style-type: none"> ▪ The product was officially registered in April. Non-pharmaceutical distribution status approval was not received therefore prohibiting the proposed program from moving forward
<ul style="list-style-type: none"> • Market tests for Aquatabs implemented 	<ul style="list-style-type: none"> ▪ Studies completed in May. Results reports received in June.
<ul style="list-style-type: none"> • Demand creation campaign for Aquatabs 	<ul style="list-style-type: none"> ▪ Cancelled due to registration issues

developed	
<ul style="list-style-type: none"> • Aquatabs launched by SMC in Bangladesh 	<ul style="list-style-type: none"> • Grant terminated
Introduce HH water treatment product in Benin	
<ul style="list-style-type: none"> • Strategy to improve retail margins and retail distribution and promotion implemented 	<ul style="list-style-type: none"> • New marketing channels brought on line to improve both “push” and “pull” of sales.
<ul style="list-style-type: none"> • Demand creation/mass communication efforts for Aquatabs expanded 	<ul style="list-style-type: none"> • New television advertising increased brand recognition and sales
<ul style="list-style-type: none"> • Community level outreach and promotion expanded through work with local NGOs 	<ul style="list-style-type: none"> • New arrangements made with community health workers and female microcredit groups to promote and sell Aquatabs
Scale-up SWS Program in Haiti	
<ul style="list-style-type: none"> ▪ Final report and lessons learned from Haiti program prepared 	<ul style="list-style-type: none"> ▪ Report completed
Scale-up SWS Program in Malawi	
<ul style="list-style-type: none"> ▪ Additional analysis of 2009 HH survey conducted to better understand barriers to use 	<ul style="list-style-type: none"> ▪ Addition analysis of the 2009 HH survey completed. ▪ Qualitative study provided additional insights to barriers Malawi completed.
<ul style="list-style-type: none"> ▪ BCC/category and brand campaigns revised to address barriers to use 	<ul style="list-style-type: none"> ▪ Number of community educators increased to intensify community outreach in cholera prone areas. ▪ New radio program promotion for POU treatment and products. ▪ Prices of WaterGuard maintained to promote trials among target populations, hopefully leading to regular use in the long run.
Scale-up SWS Program in Rwanda	
<ul style="list-style-type: none"> ▪ POU distribution and communications effort expanded with joint funding by POUZN and USAID/Rwanda bilateral 	<ul style="list-style-type: none"> ▪ Direct distribution to health facilities expanded; Sûr'Eau promoted through routine maternal and child health visits. ▪ Expanded and strengthened commercial distribution networks. ▪ Community-level events with Rwanda partner associations.
Increasing the access of PLWHA to SWS in Rwanda	
<ul style="list-style-type: none"> ▪ Support to partner associations and product distribution to health clinics with VCT sites expanded/continued 	<ul style="list-style-type: none"> ▪ Remaining sub grant funds channeled to Rwandan Partner Organizations (RPP+). ▪ Associations of People Living with AIDS (PWLHAs) resupplied from RPP+ or Health centers.

	<ul style="list-style-type: none"> ▪ Health facilities, including VCT sites provided with additional IEC materials. ▪ Sûr'Eau promoted through VCT sites.
POUZN Zinc Programs	
Scale-up of Zinc Treatment program in Benin	
<ul style="list-style-type: none"> ▪ Distribution of diarrhea treatment kit to all seven target areas scaled up 	<ul style="list-style-type: none"> ▪ New sales points established along with new marketing arrangements for OraselZinc in all target areas.
<ul style="list-style-type: none"> ▪ Private sector pharmacy personnel in seven urban and peri-urban target areas in Benin trained. 	<ul style="list-style-type: none"> ▪ Additional detailing undertaken. Pharmacists assistants trained in all districts in May and September.
<ul style="list-style-type: none"> ▪ BCC campaign for zinc as diarrhea case management treatment continued on a national scale to increase consumer demand and disseminate knowledge on correct practices. 	<ul style="list-style-type: none"> ▪ Television spot aired. Radio spots to increase awareness aired. New IEC materials prepared for community segment of program.
<ul style="list-style-type: none"> ▪ Community level IPC and promotion through local NGOs expanded 	<ul style="list-style-type: none"> ▪ New agreements signed with FECECAM (women's microcredit groups) and community health workers (relais communitaires) to both sell and promote zinc/ORS use
Introduction of Zinc Treatment program in Madagascar	
<ul style="list-style-type: none"> ▪ BCC campaign for zinc as diarrhea case management treatment launched 	<ul style="list-style-type: none"> ▪ Mass media campaign hampered by political situation. TV and radio spots aired in May.
<ul style="list-style-type: none"> ▪ Community-based agents from partner NGOs and private sector pharmacy personnel trained 	<ul style="list-style-type: none"> ▪ Training of over 3500 of planned 3477 community agents completed.
<ul style="list-style-type: none"> ▪ Community level IPC and sales of subsidized DTK through work with local NGO partners expanded to at least 8 new regions 	<ul style="list-style-type: none"> ▪ Community-level program expanded to all SantéNet partners and other NGOs in 10 regions.
<ul style="list-style-type: none"> ▪ Distribution and full-price sale of diarrhea treatment kit through private sector pharmaceutical system scaled up to new outlets 	<ul style="list-style-type: none"> ▪ Distribution of HydraZinc kits now reach 204 registered pharmacies and 893 <i>depots</i> and 377 private dispensaries.
Support private sector marketing of zinc in Pakistan	
<ul style="list-style-type: none"> ▪ Final workplan submitted USAID Mission and approved 	<ul style="list-style-type: none"> ▪ Workplan approved in November. Implementation began in December.
<ul style="list-style-type: none"> ▪ Demand creation campaign for zinc as diarrhea case management treatment developed and implemented 	<ul style="list-style-type: none"> ▪ Campaign developed and approved. Aired from April 16 through end of September.
<ul style="list-style-type: none"> ▪ Private sector providers and pharmacy personnel trained in five target high prevalence districts 	<ul style="list-style-type: none"> ▪ Subcontracts signed with PPA and PMA to conduct training seminars in April in preparation for diarrhea

	<p>season.</p> <ul style="list-style-type: none"> Partnership grants signed with 4 pharma companies to co-fund marketing of pediatric zinc products. Partnership grants signed with 3 pharma companies to put mobile treatment vans into flood affected areas.
Technical Assistance	
<ul style="list-style-type: none"> Technical assistance provided to new and ongoing POU and zinc programs on an add-needed basis. 	<ul style="list-style-type: none"> Technical assistance provided to Senegal, Madagascar, Benin, Pakistan, Kenya and Malawi.
Task Three: Global Leadership and Dissemination	
Documentation and Dissemination of Reports	
<ul style="list-style-type: none"> Country Profiles completed and disseminated for Benin, DRC, Kenya, Rwanda, Malawi and Madagascar 	<ul style="list-style-type: none"> Profiles completed for Benin, Kenya, Rwanda, Madagascar. Profiles for Pakistan and DR Congo to be completed in extension period.
<ul style="list-style-type: none"> Research reports disseminated including Madagascar operations research, Rwanda mutuelles study and global research on POU programs. 	<ul style="list-style-type: none"> Reports completed, reviewed by team and USAID, and disseminated.
<ul style="list-style-type: none"> Paper on base-of-the-pyramid approaches completed and disseminated 	<ul style="list-style-type: none"> Paper completed and submitted to USAID. Final comments being incorporated for dissemination.
Increase Visibility of POUZN among USAID and International Audiences	
<ul style="list-style-type: none"> Participation at key conferences (GHC and APHA) with at least one paper on POU and/or zinc presented 	<ul style="list-style-type: none"> Two posters were presented at 2009 APHA. Presentation on zinc toolkit at 2010 APHA. Presentations on zinc at CORE group annual meeting and USAID Health Mini-U.
<ul style="list-style-type: none"> Global meeting on results and lessons learned from private sector zinc programs organized/held 	<ul style="list-style-type: none"> Meeting with key zinc stakeholders held in June.
<ul style="list-style-type: none"> End-of-Project Conference to disseminate POU results and lessons learned held 	<ul style="list-style-type: none"> The EOP conference on POU held November 5.
Task Four: Monitoring and Evaluation	
Point of Use Water Treatment Programs	
<ul style="list-style-type: none"> Analysis of key determinants of correct and consistent use behaviors among users of POU products completed 	<ul style="list-style-type: none"> The analysis has been completed.
<ul style="list-style-type: none"> Household Surveys conducted in: DRC, Kenya, 	<ul style="list-style-type: none"> Endline household surveys

Benin and Rwanda	completed in Kenya, DR Congo in January 2010, Benin in November, 2009 and in Rwanda in March 2010. Key results included in country profiles.
Zinc Programs	
<ul style="list-style-type: none"> ▪ Household Surveys conducted in: Benin and Madagascar 	<ul style="list-style-type: none"> ▪ Surveys were completed in November 2009 and March 2010.
<ul style="list-style-type: none"> ▪ Multi-country analysis of zinc results and lessons learned completed 	<ul style="list-style-type: none"> ▪ Results presented at zinc stakeholders conference
<ul style="list-style-type: none"> ▪ Madagascar Operations Research study completed 	<ul style="list-style-type: none"> ▪ Data collection completed in March 2010. Analysis completed and research report submitted to USAID.

TASK ONE: WORKPLAN/BUSINESS PLAN DEVELOPMENT

Objectives:

- Finalize the Year Five Work Plan
- Submit an Annual Report for Year Four activities
- Complete workplan for Pakistan activities
- Complete the Year Five Semi-Annual Report
- Complete sustainability plan
- Submit a Final POUZN Project Report

Status Report on Key Activities and Outputs:

Activity A: Workplan Development and Reporting

Year Five Workplan

The POUZN team submitted its final workplan for Year Five November 13, 2009.

Semi-Annual and Annual Reports

The Year Four Annual Report, covering the period October 2008-September 2009, was completed and submitted to the CTO on November 16, 2009. The Semi-Annual Report, covering the period October 2009-March 2010 was submitted on May 15, 2010 and subsequently approved. The Year Five Annual Report is presented herewith.

Sustainability Plan

The goal of the POUZN project was to charge at a minimum a cost recovery price for the products (cost of goods sold or COGS) to allow the products at a minimum to stay on the market should donor funds be reduced. Table 2 below provides information on pricing, subsidies, and program income from those programs in which POUZN funds were used to purchase product or diarrhea treatment kit components.

Table 2. Product, Price and Sustainability

Country	Product	Retail Price	Subsidy	Used POUZN funds to purchase	Return to Project Funds Balance as of 6/30/10
Benin	Aquatabs*	\$0.25	None	NO	
	DTK	\$1.00	None	YES	\$844***
DR Congo	PUR	\$0.06	45%	YES	\$30,215
Haiti	DloLavi	\$0.63	None	YES	\$0***
Kenya	WaterGuard	\$0.24	None	NO	

	PUR	\$0.09	None	NO	
	Aquatabs	\$0.30	None	NO	
Madagascar	HydraZinc	\$1.00	None	YES	\$1,171
	ViaSur	\$0.25	65%	YES	
Malawi	WaterGuard	\$0.21	32%	YES	\$46,311
	PUR	\$0.04	53%	YES	
Rwanda	SurEau	\$0.55	None	NO	
Senegal	Aquatabs	\$0.25	None	YES	N/A**

* Price per 10 tablets

**Price set in consultation with importer Valdafrique to insure sufficient program income for sustainability

*** Balance used for continued product purchase

In all POUZN country programs but two POU products are being sold at a price that covers costs of goods and will allow for the programs to keep POU products on the market, provided that sufficient cash flow is generated. In DR Congo, the price of the PUR sachet was originally set at a cost recoverable price. However, as a result of extreme exchange rate fluctuations, the cost of the PUR sachet is now subsidized at 45%. The PSI team in DR Congo anticipates that a price increase for PUR in the near future will be necessary to bring this into balance. However, a second product, Aquatabs has recently been introduced in DR Congo at a cost recovery price—providing a more affordable alternative. In Malawi, in spite of gradual price increases over the life of the project, the price of WaterGuard continues to be subsidized at 32% for WaterGuard and 53% for PUR. The PSI team in Malawi, on the basis of research findings, felt that it was necessary to continue to subsidize the cost in order to provide an affordable product. Donor funding will be required to keep the product on the market.

All zinc programs have either a cost recovered product (Benin and Madagascar) or zinc products that have been introduced in partnership with pharmaceutical companies who sell their products for commercially sustainable prices (Nepal and Pakistan). In Madagascar, at the request of the USAID Mission, the program provides both a cost recovered and a (60%) subsidized diarrhea treatment kit.

Pakistan Work Plan

The POUZN team prepared and submitted for USAID approval a work plan to support the initiation of a program to create demand for zinc in Pakistan. This workplan was approved November 4, 2009.

Final POUZN Project Report

This report will be submitted at the end of November.

TASK TWO: FIELD IMPLEMENTATION

Objectives:

- Bangladesh: Support the introduction of Aquatabs through SMC
- Benin: Support the on-going introduction of Aquatabs and zinc together with ORS
- Haiti: Report on lessons learned in the implementation of the Dlo Lavi program
- Madagascar: Support the introduction of two diarrhea treatment kits
- Malawi: Continue to support the scale-up of SWS (WaterGuard) and PuR
- Pakistan: Introduce a program to increase the demand for private sector zinc
- Rwanda: Continue to support the scale-up of SWS (Sûr'Eau)
- Rwanda: Support an SWS program targeting PLWHA
- Provide technical assistance to support the introduction and/or continuation of zinc and/or POU programs

Status Report on Key Activities and Outputs:

Point-of-Use Promotion Activities

A. *Bangladesh*

Areas of Focus/Strategy: POUZN support to SMC in Bangladesh was intended to facilitate the introduction and sustainable marketing of Aquatabs through commercial and community-based channels in Bangladesh, making it possible to implement diarrhea prevention programs focusing on vulnerable populations.

Status of Program Activities: SMC initiated two activities: (1) a qualitative Knowledge Attitude Perception and Practice (KAPP) study on drinking water and water purifying tablets with approximately 26 focus groups to determine conceptual product acceptability and reactions to product features, positioning, price, and communication approaches; and (2) a household survey in six districts with both urban and rural households covering a range of socio-economic groups to assess acceptability of water purifying tablets and to obtain insights on willingness to use, willingness to pay and suggested distribution channels for products. Approximately 1200 households from rural and urban areas across the country participated in the trial and were surveyed thereafter. Following is a summary of the findings of these research activities:

KAPP study summary findings:

- There are low levels of knowledge of water treatment products. These are mostly connected with use during floods.
- Urban residents typically boil municipal water; rural residents typically do not treat tube well water because don't see a need to do so.
- Boiling, while labor-intensive, is not seen as having additional monetary costs to the household; people are comfortable with boiling water as the primary purification method.
- When the Aquatab product was discussed, there was not much initial enthusiasm for the concept. There were concerns about possible negative effects (making the water smell bad or taste bad).

- Urban residents were skeptical about effectiveness of Aquatabs compared to boiling water and think the product is only for rural people.
- Rural residents don't see a need for water treatment products because tube well water is considered safe to drink without treatment.
- Some expressed concerns about the 24 hour time frame for treated water to be used, remarking that this was too short.
- Price was a concern: 0.5 to 1 Taka per tablet may be considered acceptable (2 Taka per tablet is too high).

Household survey summary findings:

- There was a high level of awareness of the meaning of purified water and of diseases related to unpurified water, as well as knowledge of at least 1 water purification method.
- Most respondents felt that tap water and tube well water were already purified.
- Respondents who attended the community meeting had high knowledge of how to use Aquatabs.
- Just over half (54%) of those given tablets for 30 days used them for 30 days. 28% used them for 20-29 days.
- However, 46% of respondents did not use Aquatabs regularly. Primary reasons: they forgot, were away from home, or family members did not like them.
- Most (86%) said that family members drank the water treated with Aquatabs. If they did not use Aquatabs, the main reason was bad smell.
- 42% of users said Aquatabs changed the flavor of the treated water.
- Overall, 54% of respondents said they were comfortable using Aquatabs vs. 47% who said they were more comfortable using earlier purification methods. There were no urban/rural differences. Those in the wealthiest quintile were more likely to report being more comfortable with earlier methods than with Aquatabs.
- Most respondents (74%) felt that Aquatabs were more suitable than boiling water (no urban/rural difference).
- 84% of respondents reported that they would like to use Aquatabs in the future and 80% said they intend to buy it, which was similar across all wealth quintiles.
- Suggested price: free (12%), less than 1 Taka (29%), 1 Taka (43%), over 1 Taka (9%).
- Satisfaction levels: 57% were satisfied with Aquatabs; 30% were neutral; 13% were moderately satisfied or not satisfied.
- The two most suggested means of advertisement were TV (83%) and household visits (48%).

The POU program in Bangladesh did not progress beyond the formative research stage due to issues with non-pharmaceutical distribution status with the Government of Bangladesh.

B. Benin

Areas of Focus/Strategies: The Benin team continued to work within both public and private sector channels to raise awareness about the need to treat household drinking water as well as expand awareness that Aquatabs is a safe, affordable, and effective treatment. The strategy during Year Five was to place increased emphasis on behavior change communications that focus on encouraging household water treatment and familiarity with the Aquatabs brand,

through a combination of mass media and interpersonal communications. Additional efforts focused on new distribution channels required to ensure wider access--creating new sales points and encouraging community-based distribution and sales.

Status of Program Activities: In late 2009 and early 2010, POUZN redefined its marketing strategy and made a number of important changes. The POUZN team:

- established a relationship with a single “master” commercial wholesaler to push goods through the commercial channels;
- decentralized its supervisory system in each of the six program regions, with a single individual responsible for monitoring all NGO and community-based programs, sales activities and all retail points of sale (both public and private). This point person linked sales points with both international and local NGOs for demonstrations and sensitization sessions, coordinating with sales points on product access and creating a market “pull” for the products;
- conducted a “sales” blitz to create new commercial sales points;
- established relationships with women’s microcredit groups (FECECAM-see below) and community health workers to market the products door-to-door in their communities;
- commenced sales of Aquatabs by NGO partners;
- contracted with two medical delegates, based in Cotonou but traveling throughout the country, to follow-up with private pharmacies and health centers to create demand from the retail level, and
- established relationships with regional “mobile” rural wholesalers who distribute a wide array of products to small village retailers. As a result of these efforts, sales have steadily increased.

To scale-up the promotion of Aquatabs as a new brand, the POUZN team conducted community-based promotion and distribution activities. In the community of Abomey Calavi, 72 outreach workers and 15 supervisors were trained. These outreach workers interfaced directly with two selected wholesalers and 71 shops (one per village), conducted door-to-door or small group sessions and sold Aquatabs to households. In order to maintain their connection with the commercial network, the community outreach workers also functioned as assistants in the shops ensuring educational product explanations and demonstrations. These outreach workers contributed to the sales of approximately 40,000 strips of Aquatabs. As this was designed to be a short term promotional activity, POUZN stopped financially supporting the activities, but ensured that the top 10 outreach workers remained in contact with the wholesalers. The outreach workers and wholesalers continue to work together, without POUZN involvement. Currently, about 60 retailers are regularly procuring Aquatabs.

PSI/Benin also signed a convention of partnership with the women’s microcredit group FECECAM in March 2010 and with two other women’s groups, ALIDE and BEA, in July 2010 to scale up community-based promotion and distribution of Aquatabs in 34 communes of five departments: Alibori, Mono, Zou-Collines, Ouémé, and Plateau. These partnerships were launched to reach non-IMPACT areas and to scale up the community-based approach originally piloted in Abomey Calavi. Through the end of September 2010, these groups had reached more than 40,000 women with educational messages on diarrhea prevention and treatment. Thirty four outreach workers from these organizations coordinated and supervised the women’s group

activities. Regional supervisors also insured the monitoring of activities and continue to refer these partners to the commercial networks in each community. This approach contributed to a significant increase in demand, including a 350 % increase in quarterly Aquatabs sales.

The POUZN team collaborated closely with the Ministry of Health, specifically the Direction of Community-Based Hygiene (DHAB), to train a cadre of 211 community-based hygiene workers on diarrhea prevention messages and the correct use of Aquatabs. The trained hygiene workers assisted the NGO demonstrators during IPC activities in their communities. The hygiene workers function as health facilitators at the community level, and officially recommend the use of the products and validate the messages from the demonstrators. They also play a key role during MVU sessions on diarrhoea prevention and hand washing, helping to describe the technical aspects of various diarrhea prevention methods.

Program Results: In November 2009, a survey of 2900 households in the six primary target areas was conducted. These results have recently been analyzed and key results are summarized below:

- Percentage of households ever treating water with any method rose from 4% (2006 DHS) to 13% (November 2009).
- Of those ever treating, 70% used a chlorine product of which 75% were using Aquatabs and the remainder household bleach.
- At the time of the survey 7% of respondents were currently using Aquatabs.
- Public sector was a major access point for Aquatabs (26%), exceeded only by pharmacies (28%). Markets (12%) and kiosks (12%) were other key access points.
- A retail audit study conducted in November 2009 indicated coverage levels for Aquatabs (at least one outlet per town) had reached 35%.
- Exposure to behavior change messaging proved to be a major factor in encouraging both household water treatment and Aquatabs use. Those exposed to at least one message were twice as likely to have ever treated their drinking water (10% versus 20%) and were more than twice as likely to currently be using Aquatabs (5% versus 13%).
- Behavior change remains the greatest challenge. Of those who did not use Aquatabs, the main justification was that they did not feel the need (63%) followed by a difficulty in finding the product (10%).

During the period October 2009 through September 2010, 553,680 strips of Aquatabs were sold to wholesale, representing more than 106 million liters of water treated. Approximately 50% of Aquatabs were sold through the private commercial sector, about 30% were sold through the private pharmaceutical sector, 17% sold to international NGOs for humanitarian emergencies and 3% sold through the public sector clinics.

C. Haiti

Planned Activities: The only activity planned and completed during Year Five was a final report on activities implemented and lessons learned. A summary of these activities and lessons will be included in the POUZN Final Report.

D. Kenya

Planned Activities: Year Five activities focused on the evaluation, analysis of data and dissemination of a final country brief that highlights activities implemented and lessons learned.

Status of Program Activities: The PSI/Kenya POUZN funded program used a high coverage social marketing strategy to increase access to and availability of household water treatments, including WaterGuard, PUR and Aquatabs. During the intervention period, 216,000 bottles of WaterGuard, 52,908 sachets of PUR and 27,360 tablets of Aquatabs were sold to households through retail outlets, institutions and community-based distribution channels.

Messages on water safety and hygiene were consistently delivered to caregivers through a mix of communication channels including dramas, small group discussions, clinic sessions, community activities, household-based trainings and demonstrations on treating water using POUZN products. Mobile cinemas, merchandizing, wall branding and use of water vendors were also used to disseminate messages across the target audience. Interactive radio talk shows and television shows were also aired.

Summary of Household Survey Results:

Results from the POUZN project show a positive uptake of water treatment practices, with an increased proportion of households improving the quality of their water. The percentage of households treating their water increased from 48% in 2007 to 63% by 2009. Overall, there was an increase in the number of households that specifically treated their water with WaterGuard, Aquatabs and PUR.

In Coast province, about 29% of households with children under five are treating their water with a point-of-use chlorine-based method, which is the highest percentage that PSI/Kenya has seen in its safe water programs outside of carefully monitored pilot studies. In 2009, the percentage of respondents ever using a POU treatment product increased to 46%, up more than half since 2007, when only 29% treated their water. Of those households surveyed, 29% reported using a point-of-use product in the last 24 hours and had a product at the time of the survey.

At the time of the final survey, more than 40% of respondents reported seeing or hearing messages on treating water in the last six months. Awareness of WaterGuard increased from 75% (baseline) to 88% in November 2009; understanding of how to use WaterGuard also grew from 43% (baseline) to 51% in 2009. About 43% stored drinking water correctly in a covered container.

E. Malawi

Areas of Focus/Strategies: POUZN has continued to support the implementation of PSI/Malawi's community based distribution and promotional efforts with the IPC partners and to increase consumer demand and availability of WaterGuard and PUR in Malawi. These have included implementing a branded communication campaign and community-based, targeted distribution activities to improve availability and access to household water treatment, particularly in rural areas.

Status of Program Activities:

Radio advertising was intensified during the quarter: a total of 630 radio spots were aired on the most popular national radio station to address barriers to use. An additional 600 radio spots were aired to present messages around cholera prevention and hygiene. POUZN also sponsored 24 women's programs on the radio that included detailed information on product use, availability, affordability and brand attributes.

A team of 20 community educators was deployed across Malawi to conduct an estimated 500 interactive education sessions and demonstrations for POU water treatment, reaching an estimated population of 20,000. These sessions have helped to improve user self confidence in water treatment, correct dosing problems and change the mindset of consumers who fear WaterGuard's strong chlorine smell is a bad trait. Local role models for POU and hand washing and proper water storage were identified. The role models demonstrated to the community how they treat drinking water, when they wash their hands and the health benefits to their family members in terms of reduction in diarrheal diseases. Since inception, over 2,000 role models, who correctly treat their drinking water, store the treated water properly and have hand washing facilities placed just outside their latrines, have been identified. This was a very successful intervention, which has resulted in increased WaterGuard use and hand washing in the community as a way to prevent diarrheal diseases.

A total of 24 safe water and hygiene clubs were established in primary schools. In these schools pupils drink safe water treated with WaterGuard every day and have constructed simple hand washing facilities using locally available resources for hand washing with soap. Each classroom was allocated a water storage bucket and two cups; a 60 liter water storage container is placed just outside the girls and boys latrine with soap for hand washing immediately after latrine use. This activity has 3,400 pupils in the 24 schools. An exchange visit was organized for ten teachers from ten primary schools within the Fresh Ware Project impact area. The teachers visited schools that had already started safe water clubs in collaboration with World Vision International so they could learn how to start clubs in their own schools. Training on water treatment and hand washing with soap was conducted for 40 Peace Corps volunteers. The volunteers were then able to establish safe water and hygiene clubs in the community and schools where they serve.

A total of 250 college students, nurses and medical officers were briefed in four colleges across the country. These professionals committed themselves to being advocates for safe water and ensuring that latrines and hand washing facilities were available at their own places of work. In addition to this, a total of 120 community health workers (Health Surveillance Assistants) were trained to promote POU water treatment and hand washing with soap within their own communities. HSAs are government employees doing surveillance work in the community; during rainy seasons, they also distribute free chlorine.

During the period October 2009 and September 2010, more than 969,000 bottles of WaterGuard were sold and the communities experienced no stock outs.

F. *SWS for MCH in Rwanda*

Areas of Focus: Remaining funds under the MCH component of Rwanda's POUZN project were focused on supporting continued high levels of communication activities, revision of the distribution strategy, and on-going cholera response, and built on the support offered under the bilateral agreement between USAID/Rwanda and PSI.

Status of Program Activities: During Year Five, POUZN disseminated three key messages during IPC sessions, rapid-promotion sessions and MVU sessions. Key messages included correct use of Sûr'Eau and its benefits. Additional messages about safe water storage, including containers with narrow mouths and lids were also disseminated. The POUZN team conducted 199 IPC sessions, 96 rapid promotion sessions and 103 MVU sessions, reaching over 104,000 people.

A sixty second branded radio spot, aimed at increasing awareness and knowledge of Sûr'Eau aired twice a day on government, private faith-based and community based radio stations from September 2009 through July 2010.

As Sûr'Eau distribution diversified among various channels, caregiver's use of the product improved. In the spring of 2010 a retail audit of more than 1,500 outlets was conducted to evaluate Sûr'Eau coverage. Survey results confirmed that the more women know about where and how to purchase safe water solution, the more they are likely to treat their water at home. National coverage reached about one in two households in Rwanda. Overall, 19% of survey respondents in 2010 had used Sûr'Eau in the last 24 hours to treat their water. Almost 40 % of those surveyed had ever used Sûr'Eau. Comparatively, in 2007, only 20% had ever used Sûr'Eau.

Research results from the project show that exposure to the water treatment product is associated with an increase in the use of Sûr'Eau over time. Only 34% of people who are not exposed to messaging use Sûr'Eau, whereas more than 42% of those exposed do use the product. The related brand appeal, also reinforced through messaging, has created a positive association with the use of Sûr'Eau. Many caregivers surveyed felt that Sûr'Eau was the "best product to treat water and prevent diarrhea among children."

Between October 2009 and September 2010 PSI/Rwanda distributed 1,010,704 bottles of Sûr'Eau. In October 2009, at the request of the Government of Rwanda, PSI distributed 400,000 free bottles of *Sur'Eau* to pregnant women and breastfeeding mothers as one of the services of the vaccination campaign. An additional 437,022 bottles were given away during Maternal and Child Health Weeks in April 2010. Sales of *Sur'Eau* through commercial and public sector channels totaled 173,682 bottles.

G. *Targeting PLWHAs in Rwanda*

Areas of Focus/Strategies for Year Five: Continued support for partner associations of people living with HIV/AIDS and other Rwandan partners.

Status of Program Activities: PSI/Rwanda trained PLWHA associations in their respective operating areas, including communication and distribution techniques. More than 5,000 members of PLWHA associations were exposed to water treatment and hygiene messages through interpersonal communication activities. PSI channeled remaining sub-grant funds through RRP+, the umbrella organization of all PLWHA associations in Rwanda.

During year five, POUZN conducted 345 community events for PLWHA, reaching more than 34,000 people. Attendees received messages about correctly using Sûr'Eau and practicing good hygiene like hand washing. More than 1,100 IPC sessions were also held, reaching more than 21,000 people. Coordination meetings were also conducted to disseminate key messages and more than 13,000 people attended these meetings.

In total, the POUZN team distributed 70,500 promotional materials to encourage use of Sûr'Eau in conjunction with safe hand washing and hygiene.

As initial stock of 10,000 bottles of Sûr'Eau were distributed in PLWHA member cooperatives. Resupply was accomplished during return visits to health centers.

Zinc Treatment Programs

G. Benin

Areas of Focus/Strategies: The POUZN team focused on opening new distribution channels for OraselZinc by creating new sales points and encouraging community-based distribution and sales. The team also focused on expanding brand recognition of OraselZinc through new television advertising and emphasized, via interpersonal communications and provider/pharmacist training, improving counselling skills relative to the need to take the ORS with the zinc and to continue administering zinc to the child for the full ten days.

Status of Program Activities: Three private pharmaceutical wholesalers, the government pharmaceutical wholesaler CAME, and 10 commercial wholesalers are carrying OraselZinc and have stocked all private sector pharmacies in the country. New distribution and marketing channels, mentioned in the POU section above are working to increase sales and use of OraselZinc as well. The POUZN team capitalized on opportunities for creating community-based distributors/vendors; signed agreements with community health workers in the Cotonou area, with FECECAM, the organization which supports women's microcredit units, with the microfinance institution ALIDE in the densely populated suburbs of Cotonou, with the Benin-Alafia NGO of Aguégues lake district and with CEBAC-STP member companies to sensitize women about OraselZinc and sell the product to their neighbours.

In May and September the POUZN team trained 199 pharmacists assistants from all departments on diarrhea prevention and treatment including counselling skills for treatment of pediatric diarrheas with zinc.

A new radio spot was developed to stress the role that zinc can play in protecting children from future diarrhea and allowing them to quickly recuperate from current diarrhea. A television spot

was developed and began airing during the last week of March, supporting the efforts of the community and retail sales agents who found that consumers were much more likely to buy an initial supply of the product after they had seen the advertisement, resulting in a sharp increase in orders by wholesalers. Research results showed that caregivers who heard messaging were twice as likely to use OraselZinc.

Most of OraselZinc sales are through private commercial wholesalers (62%) or private pharmaceutical outlets (34%). Institutional sales to international NGOs accounted for 4% of sales.

Between October 2009 and September 2010, PSI/Benin sold 250,000 diarrhea treatment kits.

H. Madagascar

Areas of Focus/Strategy: The POUZN project implemented a two-pronged strategy to distribute and market two diarrhea treatment kits (DTK) containing both zinc and ORS through private sector channels. A “premium” DTK (HydraZinc) was distributed nation-wide through the commercial pharmaceutical system for sale in pharmacies and rural *dépôts de médicaments* at a cost recovery price. A second DTK, containing the same products but with different packaging and a different brand name and ORS flavoring (ViaSûr), was sold by community-based distribution agents at a subsidized price in rural districts with high rates of diarrheal disease.

Status of Program Activities: The POUZN team focused its efforts on filling the pipeline with products in both commercial and community distribution channels, obtaining additional supplies of both zinc and ORS for the subsidized ViaSûr kit, expanding training and partnerships for promotion of the subsidized kit with USAID’s bilateral SantéNet2 project, developing partnerships with additional nongovernmental organizations (NGOs) outside of SantéNet2, and finalizing and airing media messages and producing IEC materials. Delays in ordering ORS required that the product be air shipped to Madagascar from the supplier in India in June and July. These delays also delayed training of NGO partners and their community sales agents.

As of September 2010, commercial distribution points for the HydraZinc kit included 205 registered pharmacies, 893 *dépôts*, and 377 private dispensaries, each of which stock a set of PSI products. These points of sale are supplied through the established commercial pharmaceutical distribution network.

The POUZN team contracted with a well-known advertising agency in Madagascar, Grand Angle, to produce television and radio spots to promote HydraZinc and expand awareness of the product. The mass media campaign commenced in April 2010 with both radio and television spots broadcast on the government owned national and regional television and radio channels, as well as privately owned regional radio and television channels including the three private sector television channels in Antananarivo. Since April, the TV spot has aired 475 times on national and regional TV stations. The radio spots have been aired 685 times: 79 on national radio and 606 times on local radio stations. A few weeks after airing radio spots and broadcasting TV spots, sales figures increased (6,715 DTKs sold in April versus 22,995 in August). Doctors in Madagascar are increasingly convinced by the importance of prescribing DTKs. Supervisory

visits to pharmacies reported that Hydrazinc prescriptions have increased. This was particularly true in areas where doctors had been trained in partnership with the Madagascar Medical Association (CROM). The CROM's involvement greatly contributed to the performance of the program. The POUZN team developed a TV spot in French targeting prescribers in addition to a TV spot produced in Malagasy for caregivers. Nearly 600 pharmacists, 27 counter staff and 571 members of the CROM were trained. Trainings of doctors lasted half a day and consisted in sessions where medical information was provided, series of questions were answered and pamphlets on Hydrazinc were given to doctors. This information included testimonies from doctors already using the product. Free samples of Hydrazinc were also distributed. The POUZN team also developed a training video during the CROM launch event, which contained testimonials of doctors who have used zinc and expert testimony on using zinc in place of antibiotics. This video will be used during future training sessions.

ViaSur distribution is centered in rural communities with high rates of diarrheal disease and limited access to zinc or ORS through other channels—either private or public. These communities are located in 45 districts which are active in USAID's bilateral SantéNet2 "Champion Community" program, but also include a number of other communities supported by local NGOs who work outside of the SantéNet2 areas. To date, more than 3500 community agents have been trained by PSI or partner NGOs, as have 58 trainers. The POUZN team has been identifying and establishing points of sale in each of the 800 SantéNet2 communities and wholesale distribution points in *dépôts* in these rural areas

ViaSur is being promoted by interpersonal communication through the community agents, mobile video events within rural communities, and promotional items worn or used by community agents. To ensure continued availability of the product, especially during the rainy season, a series of trainings took place in 72 SantéNet2 districts. Participants are now able to manage supply points in their respected districts and communes. Training themes focused on product management, conditions of storage, management tools, and roles and responsibilities of different actors among the distribution chain. All supply points are now able to ensure a stock of two months to supply their "customers" i.e. community agents. The distribution model for ViaSûr also took a new direction. ViaSûr is now available through *dépôts de médicaments* in the most remote areas.

More than 9,100 people among the target groups have been sensitized through MVU sessions. Promotional items have been produced to target participation in these sessions (hats, banners, baby bibs). A documentary video on ViaSûr, including testimonies from current users, has been developed to reinforce messages on correct DTK use and its effectiveness to treat uncomplicated diarrhea cases in children under five. This video will be broadcast via MVUs and will be shared with partner NGOs also organizing mass sensitizations.

In February, 2010, POUZN headquarters staff worked closely with the research firm, Focus Development Associates, to refine data collection tools and train the interview staff in preparation for the planned operations research study on the effectiveness of the various distribution channels being utilized in this program. This research compared 5 sets of districts: two districts supported by the MOH, two districts in which UNICEF and BASICS had provided supplies and additional technical assistance to the MOH, two districts in which POUZN had been

working for over a year, two districts in which POUZN was working through SantéNet (yet relatively new), and two control districts. A summary of the research findings was prepared by the Abt team for the USAID Mission and PSI who facilitated a stakeholders meeting in Madagascar to present these findings.

Results of Field Research:

- A large number of caregivers (55%) do not seek advice or treatment outside the home. 16% provided no treatment while 83% provide treatment with home-prepared fluids.
- Of those who did seek care, one third sought care from the public sector (34%), followed by relatives/friends (23%) private providers (17%) and then pharmacies (14%).
- The overall zinc usage rate in the 10 districts was a low 4.2%. This ranged from nearly 12% in MOH districts where the majority of staff had been trained and product was available to 2% in POUZN and control districts where the project has not been working long or where there has been no MOH training nor product available.
- Nearly all (99%) zinc users, used ORS/ORT along with the zinc, but only 29% used zinc for the full 10 days, indicating that compliance is a major issue.
- Only 17% of all caregivers provided ORS to their child during the bout of diarrhea.
- The public sector clinics were the main source of zinc. 55% of zinc users obtained zinc from the MOH clinic, followed by community health workers or distribution agents (24%), a private sector source—a private clinic or pharmacy or depot (19%), and other (2%).
- Respondents were more likely to obtain zinc supplies from community health workers and community sales agents in the POUZN districts where NGO staff had been trained and DTKs were available.
- Despite the promotion of zinc, providers continue to prescribe and caregivers continue to prefer antibiotics or other pills and syrups. These are prescribed by public sector providers (33%) more than private pharmacies or providers (22%), while private providers (37%) are more likely to prescribe anti-diarrheals than public providers (32%).
- Mystery client visits to private providers confirmed these findings: 46% of these providers prescribed antibiotics, 33% prescribed an anti-diarrheal, 11% ORS and only 10% zinc. Of the 55 vendors who were explicitly asked about zinc, 36% had never heard of zinc, 14% said that zinc was either out of stock or was never sold in their pharmacies.
- Only 2% of respondents had heard a message about zinc.

In 2010, the POUZN program in Madagascar sold 116,422 HydraZinc kits and 232,844 ViaSur kits.

I. Pakistan

Areas of Focus/Strategies: POUZN has built upon the ongoing efforts of four Pakistani pharmaceutical firms to market pediatric zinc products by supporting a mass media campaign to educate consumers and providers and create demand for the products. POUZN has also focused on educating physicians by partnering with both the local manufacturers and the Pediatric and Medical Associations to co-sponsor seminars and workshops. POUZN pilot activities are focused in seven districts in the Sindh and Punjab regions of Pakistan: Karachi (3 districts), Sukkur, Multan, Hyderabad, and Faisalabad.

Status of Program Activities: POUZN began implementing a private sector zinc program in December 2009 when POUZN signed Memoranda of Understanding with four Pakistani pharmaceutical firms (ATCO Laboratories, ZAFSA Pharmaceuticals, Macter International, and Genix Pharma). Subsequently POUZN signed partnership grant agreements to co-share the cost of marketing efforts with these four firms. These included conducting training seminars and printing IEC and detailing materials developed by the pharma companies themselves.

In January, POUZN concluded a competitive bidding process and signed a contract with Interflow Communications, Ltd. to conduct formative research, develop and air a generic zinc media campaign (promoting no specific brand), and create and distribute IEC materials. Interflow, under the guidance of POUZN's Country Director and Communication Specialist, completed the formative research; designed a logo, posters and billboards; and created a television commercial and a number of radio spots. These were aired throughout the diarrhea season beginning the middle of April and continuing into September. In addition, Interflow developed a mobile video unit presentation, brochures, posters and other IEC materials for use by providers and Lady Health Workers. This program was launched in the Karachi area in mid-April.

In February and March POUZN signed professional services agreements with the Pakistan Medical Association (PMA) and Pakistan Pediatric Association (PPA) to conduct a series of training seminars for physicians, detailers and pharmacists. The PMA conducted a series of 18 educational seminars for general practitioners in the target districts, reaching 1000 providers, and PPA conducted a similar session in Karachi, reaching another 200 pediatricians. All four pharmaceutical partners contributed funds to these training activities. In October POUZN again collaborated with the PPA, participating in their International Biennial Pediatric Congress reaching 1000 pediatricians from throughout Pakistan with messages and information about zinc for the treatment of pediatric diarrheas.

USAID/Pakistan contracted directly with Aga Khan University (AKU) for monitoring research. POUZN staff prepared the SOW for this research, provided the tools, and reviewed the AKU proposal on behalf of USAID. AKU is currently conducting the endline research, having completed the baseline research in July. POUZN also purchased sales data through Pakistan's Independent Market Survey (IMS—a retail audit) that provides historic and current sales information on all zinc and ORS products by manufacturer in Pakistan.

The IMS data shows positive growth of the zinc market. Sales of all zinc products increased by 26.68% between 2009 (1,129,568) and 2010 (1,430,953) and is expected to increase even further given that the 2010 data is only available for quarters 1-3. The 2010 sales figures represent a 94% increase over sales in 2008. POUZN also tracked sales of ORS. 2010 sales increased by 19% over the 2008 sales and shown show an even higher increase once quarter four figures are included.

In August torrential rains resulted in widespread flooding in Pakistan, displacement of families, massive crop destruction, and ensuing outbreaks of cholera and other diarrhea diseases. In order to address the needs of families in the seven target districts, POUZN again partnered with three

of the pharmaceutical companies to create mobile vans, staffed by a local doctor with appropriate local language skills, which could travel into the flood affected areas bringing supplies of both ORS and zinc. POUZN worked with the Pakistan Safe Drinking Water Project, also implemented by Abt Associates, to arrange for the delivery of water treatment products (PUR—particularly suited to the treatment of turbid water) to the participating pharmaceutical firms for distribution via the vans among affected families in order to prevent further outbreaks of acute watery diarrhea.

J. Technical Assistance

POUZN team members visited Madagascar, Benin and Kenya to document program status and results. POUZN headquarters also provided technical assistance to Madagascar to determine commodity requirements to meet national demand and reported these findings to USAID.

In addition the project has continued to provide advice on an add-needed basis to the Senegalese social marketing organization, Agence pour le Développement du Marketing Social (ADEMAS) in support of their introduction of Aquatabs. As a result of technical assistance provided during POUZN Years 4 & 5, on February 24, 2010, ADEMAS successfully launched Aquatabs into the Senegalese market.

Since the launch, ADEMAS has sold 1,540,850 tablets, the equivalent of 30,817,000 liters of treated water. They have established partnerships with a broad spectrum of public, private, and civil society organizations, including the Ministry of Health and several of its related divisions, the Ministry of Public Hygiene, the Red Cross, the Office National de l'Assainissement du Sénégal (ONAS), the Centre Régional pour l'Eau Potable et l'Assainissement à faible coût (CREPA), ChildFund International (through the USAID-funded Composant Santé Communautaire), the Union Nationale des Commerçants et Industriels du Sénégal (UNACOIS) and multiple women's and youth groups and schools. ADEMAS has trained over 850 promoters, health agents, and government representatives on the benefits and use of Aquatabs, permitting wide penetration of the product, in particular during religious events, such as the largest held in Touba. ADEMAS plans to conduct an evaluation of changes in knowledge and behavior before the end of the year.

TASK THREE: TECHNICAL/GLOBAL LEADERSHIP

Objectives:

- Complete and disseminate country profiles for all major POUZN country programs;
- Disseminate major research reports including Madagascar operations research, Rwanda mutuelles study and global research on POU and zinc programs;
- Finalize and disseminate a paper on base-of-the-pyramid approaches to household water treatment programs;
- Attend and present program results at the American Public Health Association and Global Health Conferences;
- Organize a forum to disseminate global results and lessons learned on zinc;
- Organize a POUZN End-of-Project Conference in collaboration with AED;
- Attend POU and Zinc partner meetings; and
- Continue dissemination of information on POUZN activities through electronic media.

Status Report on Key Activities and Outputs:

A. Documentation and dissemination of best practices

Country profiles have been completed for Benin (two profiles--one featured Aquatabs and a second highlighted OraselZinc), Kenya, Madagascar, and Rwanda. Each of these profiles described the program, set forth research findings and presented lessons learned in the implementation of the program. Two additional profiles: DR Congo and Pakistan are in draft and will be available prior to the end of the contract. While the team had planned a profile for Malawi, due to problems with the end line survey, the project has limited evaluation data. Therefore, a profile will not be produced. In addition, the Rwanda mutuelle study, the Madagascar research study and a global paper on POU drawing from multi-country evaluations of water treatment programs have been completed.

B. Base of the Pyramid Paper

A paper examining the feasibility building a viable commercial market for point-of-use safe water products at the Base of the Pyramid has been completed. Final USAID comments are being addressed prior to distribution.

C. Participation at conferences

POUZN participated in the American Public Health Association annual meetings in Philadelphia, PA (November 2009) where two POUZN posters—one on the introduction of zinc in Nepal and the second on the results of study to evaluate the results of promotion of POU products through mutuelles in Rwanda were presented and in Denver, Colorado (November 2010) where POUZN provided an oral presentation on the development of the zinc toolkit.

D. Organize a zinc workshop and End-of-Project Conference to disseminate POUZN results

In consultation with USAID, POUZN/AED, and other key partners, the POUZN/Abt team developed agendas and made presentations at both an end-of-project conference on POU and a zinc-focused meeting to highlight results and to share lessons learned with stakeholders and the international community.

E. Attend POU and Zinc partner meetings

POUZN staff have actively participated in all POU partner meetings and are now regularly included in the regular teleconferences of the Zinc Task Force. The POUZN team participated in the zinc research meeting hosted by UNICEF and the ZTF in New York in November.

F. Seminar on household water treatment at World Water Week in Stockholm

In partnership with USAID, UNICEF, the World Health Organization, PATH, and PSI, Abt convened a seminar to kick off this year's World Water Week entitled *Healthier Water, Healthier People: An Approach to Improving Water Quality*. This seminar offered panel and roundtable discussion with representatives from Indonesia, Kenya, and Rwanda and was attended by 120 participants at the conference.

G. Presentations on Zinc at CORE Group and Mini-University

POUZN staff members made presentations on zinc and the POUZN program at the Core Group annual meeting in Baltimore in April and at the health mini-university at GWU in October.

H. Dissemination of Resources through Electronic Media

POUZN is continuing work with both PSP-One/SHOPS and Environmental Health (EHP) projects to ensure that on-line resource libraries are searchable by topics of interest to the POUZN community, and that key resources on diarrheal disease prevention and treatment, particularly through the private sector, are included in these on-line resource libraries.

TASK FOUR: MONITORING AND EVALUATION

Objectives:

- Complete household surveys of programs in Benin, DR Congo, Kenya, Rwanda.
- Complete operations research study in Madagascar to determine the most efficient and cost-effective methods of improving access and encouraging use of zinc and ORS in the treatment of diarrhea.
- Finalize analysis of cross-country comparison of POU programs.
- Finalize analysis of cross-country comparison of zinc programs.
- Provide final report of results against the POUZN Performance Monitoring Plan.

Status Report on Key Activities and Outputs:

A. Complete household surveys of programs in Benin, DR Congo, Kenya, Rwanda.

Field teams completed data collection in Benin, DR Congo, Kenya, Rwanda and Malawi. Additional qualitative research was undertaken in both Malawi and DR Congo to help the team better understand the findings of the household survey.

B. Complete operations research study in Madagascar

In March, field teams collected household data and completed focus group discussions and individual interviews with caregivers and community health agents and providers in 10 districts located throughout Madagascar. A research report was completed and submitted to both USAID/W and the Mission. A powerpoint presentation on the research results was prepared by Abt and forwarded to the Mission and PSI for delivery to local stakeholders.

C. Finalize analysis of cross-country comparison of POU programs.

This paper has been completed and reviewed and has been delivered to USAID.

D. Finalize analysis of cross-country comparison of zinc programs.

A comparative analysis of the zinc programs was completed and presented at the zinc stakeholders' meeting.

E. Provide final report of results against the POUZN Performance Monitoring Plan

Zinc PMP Results:

Four zinc programs were implemented over the course of the contract: Nepal, Benin, Madagascar and Pakistan. DHS use data served as the baseline in all programs except Pakistan where POUZN conducted a baseline survey in June-July 2010. Endline data is still being analyzed for Pakistan and results will be included as part of the country profile. In Nepal, Benin and Madagascar, zinc use increased significantly over the course of program implementation.

No zinc was available in Benin prior to POUZN and there were no other programs during the implementation period providing zinc in the country. Zinc use increased to 30% from a baseline of zero. Zinc was used with ORS in 87.5% of cases, while only 47% of caregivers provided the zinc for the full 10 days. Benin’s public sector clinics (which obtained its supplies from POUZN) were the primary source of zinc supply (64%) with pharmacies providing 24% of supplies. Community resources (community distributors or friends/relatives) provided the remaining 12% of zinc supplies. Approximately 33-38% of caregivers surveyed knew that zinc was an appropriate treatment for diarrhea and that it needed to be taken along with ORS. Nearly 90% of respondents knew where they could obtain zinc.

In Nepal, zinc pilots in five target districts provided a baseline 0.4% use rate, which was increased to 15% through the activities of the POUZN project. 79% of children were given ORS/ORT along with the zinc and 66% were given zinc for the full 10 days (the highest compliance rate of the three programs). Private clinics and pharmacies were the major source of zinc (58%) with public clinics providing 29%, hospitals 18%, and community health volunteers 15% of zinc supplies. Around 35% of caregivers knew that zinc was an appropriate diarrhea treatment and 91% knew where they could obtain zinc.

The Madagascar zinc program suffered many delays due to a political crisis that hampered many aspects of implementation as described in Section II above. The baseline zinc use rate according to the 2009 DHS was 1.4%. POUZN funded research which looked at use rates, knowledge and delivery across five different delivery models (public sector, public sector with UNICEF support, POUZN Phase I, POUZN Phase II and control), found that zinc use rates were highest in public health clinics (where staff had been trained and supplies were available): MOH clinics (12%), MOH clinics supported by UNICEF (6%), POUZN and control districts (2-3%). Overall ORS use with zinc was good (82%) but compliance with the 10 day protocol was very poor (29%). Very few respondents had heard or seen a promotional message about zinc. Only 1.2% of those knew that zinc needed to be administered with ORS but 76% knew that zinc was an appropriate diarrhea treatment; 91% knew where to obtain zinc. The POUZN program focused heavily on training community-based sales agents and getting supplies into rural areas. In the POUZN I program area, where the program had been implemented for the longest period, 73% of zinc users obtained zinc from a community sales agent, which is an encouraging finding. Given the political crisis and failure of UNICEF to continue to supply zinc to the MOH, we anticipate that USAID-funded zinc will be available to fill the vacuum.

In Pakistan, baseline and end line research were funded directly by USAID and have been conducted by the Aga Khan University in Karachi. The University is in the process of analyzing this data and the results will be presented in the country profile that will be finalized under the SHOPS project. Pakistan sales data for 2008, 2009 and the first three quarters of 2010 have been included in this Annual Report.

Table 3. Zinc PMP Results

Indicator	Benin	Madagascar	Nepal
% children under five who had diarrhea in the preceding 2 weeks who were treated with zinc			
Baseline (DHS)	0	1.4	0.4

Endline (POUZN HH survey)	30.9	4.2	15.4
AMONG ZINC USERS:			
% of children under five who had diarrhea in the preceding 2 weeks who were treated with zinc by source of zinc supply	Public clinic: 64%; Pharmacy 24%; CHW 7%, Relative/friend 5%	Public clinic 55%, private clinic or pharmacy 19%, CHW 24%, other 2%	Public clinic 29%; private clinic or pharmacy 58%, hospital 18%, CHW 15%
% children under five who had diarrhea in the preceding 2 weeks who were given the correct amount of zinc for age for a full course of treatment (10-14 days)	47%	29%	66%
% of children under five who had diarrhea in the preceding 2 weeks who were given ORS/ORT in conjunction with zinc	87.5%	82.4%	79%
Provider Behaviors			
% of providers, pharmacists, and other drug sellers (including community-based distributors) who recommend zinc treatment along with ORS/ORT as the first line treatment for diarrhea as opposed to recommending antibiotics or anti-diarrheals	18% pharmacy 8% clinic	10%	30%
USAID Indicators			
Number of cases of child diarrhea treated through USG-supported programs (USAID indicator)	874,616	375,550	260,000 (2008)
Number of people trained in child health and nutrition through USG-supported health programs (USAID indicator)	1,414	4,756	8,050
Knowledge Indicators			
% of caregivers of children under five who know that zinc needs to be administered along with ORS/ORT	All respondents	Of those who had heard of zinc	All respondents
% of caregivers of children under five who are aware that zinc is an appropriate treatment for diarrhea	32.9	1.2	n/a
% caregivers of children under five who know where to obtain zinc	37.5	76.4	34.9
Sources mentioned: (to compare knowledge of private sector access with public sector access)	Health clinic (56%); pharmacy (55%); CHW (5%)	Public sector: hospital (24%) health post (35%), CHW (21%); private sector: clinic (5%), pharmacy (39%), CBD (16%)	Health post (28.2%), hospital (20.6%), private clinic (21.9%), private pharmacy (58.1%)
Access indicator			
% of consumers residing within a specified distance of a zinc treatment product	54.5 (zinc users); 56.6 (non users)	74.4	35.9
Conducive Environment			
# of zinc products/brands registered at appropriate dosage and indication	1	1	3
Zinc legally permitted to be sold over-the-counter	yes	yes	yes
Incorporation of zinc into national protocols and programs for the treatment of diarrheal disease	yes	yes	yes

Quality control standards established and regulated through appropriate government entity	n/a	n/a	yes
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POU PMP Results

Use of POU products (WaterGuard liquid, PUR sachets, or Aquatabs tablets) increased in program countries as shown in Table 4 below. Baseline surveys were conducted for all programs except Haiti and Benin. Percentage of households with children under five ever treating their water with a program promoted method increased from zero to 12% in Benin; from 30% to 45% in Kenya's Coast province (POUZN's focus area), from 19% to 37% in Rwanda and from 5% to 32% in DR Congo. Ever use rates in Haiti were a low 4%. The percentage of caregivers who were correctly treating their drinking water with the promoted method increased from zero to 2% in Benin; from 7% to 30% in Kenya's Coast province; from 1% to 9% in DR Congo. Self-reported current use within the previous 24 hours were 6% in Benin and 1.4% in Haiti and increased from 11% to 30% in Kenya Coast; from 1.3% to 21% in Rwanda and from 2% to 14% in DR Congo. Use rates in Malawi are unavailable due to a survey error in the end line evaluation. Results of correct storage of drinking water is more mixed: In Benin 12% reported correct storage procedures; in Kenya Coast this remained the same at 70%; in Malawi correct storage increased from 84% to 88%; in Rwanda correct storage results decreased from 82% to 55%; in DR Congo correct storage responses increased from 36% to 42%.

The majority of knowledge indicators increased over the project implementation periods, as follows:

- Caregivers know that diarrhea can be contracted from water: in Benin this increased from 39% to 99%, in Kenya Coast this indicator increased from 45% to 69%, in Haiti the number reached 98%, in Malawi there was a small decrease from 97% to 95%, in Rwanda this increased from 51% to 59% and in DRC from 36% to 42%.
- Caregivers know they need to treat water to make it safe for their children to drink: Benin: 69%, Kenya Coast a slight decrease from 81% to 78%, Haiti: 90%, Malawi: no change at 98%, Rwanda a slight increase from 94% to 97%, DR Congo increased from 20% to 31%.
- Caregivers can cite one or more promoted water treatment product: Benin: 21%, Kenya Coast increased from 72 to 91%, Haiti: 35%, Malawi increased from 90% to 99%, Rwanda increased from 86% to 97%.
- Caregivers know where to buy those products: Benin 19%, Kenya Coast increased from 72% to 80%, Haiti: 10%, Malawi remained at 83%, Rwanda increased from 19% to 53%, and DR Congo increased from 9% to 26%.

In all country programs an appropriate governmental authority accepted registration of the POU products and had established quality standards against which to regulate the product.

Table 4. POU PMP Results

Country & Survey Year	Benin 2007	Benin 2009	Kenya Coast 2007	Kenya Coast 2009	Haiti 2009	Malawi 2005	Malawi 2008	Rwanda 2007	Rwanda 2010	DRC 2008	DRC 2010
% of households with children under five ever treating drinking water using promoted methods	NA	12.1	29.8	45.3	3.6	41.3	22.2	19.3	36.6	4.8	32.2
% of household with children under five correctly treating drinking water using promoted methods	NA	2.0	7.4	29.6	0.6	NA	12.1	2.6	3.0	1.1	9.2
% of household with children under five consistently treating drinking water using promoted methods	NA	2.6	11.0	14.1	0.6	13.6	12.3	1.0	16.6	0.8	2.4
% of household with children under five treating drinking water using promoted methods in last 24 hours (self-reports)	NA	6.3	11.1	29.7	1.4	14.0	3.4	1.3	20.7	2.1	14.3
% of household with children under five treating drinking water using promoted methods in last 24 hours (tested with chlorine residual)		NA	NA	28.5	NA	NA	13.9	NA	19.0	NA	NA
% of households with children under five correctly storing treated drinking water	NA	11.6	70.2	69.0	90.4	84.0	87.5	81.7	54.7	35.6	41.6
% of households that know diarrhea can be contracted from water	38.8	99.6	45.3	69.0	98.4	96.9	95.3	50.7	59.3	15.1	26.3
% of households that know they need to treat their water	NA	69.2	80.5	77.6	90.0	98.0	98.0	94.5	96.8	20.5	31.2
% of households that know they need to appropriately store their water to prevent contamination	NA	99.7	NA	98.2	NA	NA	96.2	NA	N	NA	NA
% of households that can cite one or more appropriate project promoted water	NA	20.9	72.2	91.2	35.4	90.3	99.0	85.7	96.9	73.9	NA

Country & Survey Year	Benin 2007	Benin 2009	Kenya Coast 2007	Kenya Coast 2009	Haiti 2009	Malawi 2005	Malawi 2008	Rwanda 2007	Rwanda 2010	DRC 2008	DRC 2010
treatment methods/products											
% of households who know at least one location where they can purchase POU products	NA	18.8	71.9	80.3	10.0	82.6	83.1	19.4	52.7	8.8	25.5
% of consumers residing within a specified distance (may vary by country) of a water treatment product outlet	NA	11.6	NA	44.4	8.0	60.9	62.0	13.4	49.3	7.1	44.2
Appropriate government authority accepts registration of POU product	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Appropriate government authority establishes quality standards for product to be regulated	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 5. Sales of POU and Zinc Products in POUZN field programs

LITERS OF DRINKING WATER TREATED WITH POU PRODUCTS					
Country	Product	FY2007	FY2008	FY2009	FY2010
Benin	Aquatabs		300,000	66,000,000	106,000,000
DRCongo	PUR		2,400,000	29,882,800	
Haiti	DioLavi (SWS)		63,996,000	148,985,000	
Kenya (coast)	WaterGuard	230,540,000	190,968,000	219,732,000	216,000,000
	PUR	293,740	307,200	493,080	529,080
	Aquatabs				54,720
Malawi	WaterGuard	397,287,000	110,413,100	285,776,000	368,899,499
	PUR	537,977	2,338,720	17,130,300	7,809,827
Rwanda	SurEau (SWS)	22,952,000	224,200,000	280,681,000	1,010,704,000
TOTAL		651,610,717	594,923,020	1,048,680,180	1,709,997,125
DIARRHEA TREATMENTS SOLD					
<i>Diarrhea treatment kits (2 ORS and 1 zinc)</i>					
Country	Product	FY2007	FY2008	FY2009	FY2010
Benin	OraselZinc		200,616	424,000	250,000
Madagascar	Hydrazinc		0	14,616	116,422
	ViaSur		0	11,668	232,844
<i>Zinc and ORS products sold by commercial pharmaceutical partners</i>					
Nepal Zinc	Multiple		260,000		
Pakistan Zinc	Multiple		739,647	1,129,568	1,430,953
Pakistan ORS	Multiple		4,134,637	5,341,553	4,926,916

BUDGET

Table 6 provides a summary of expenditures for the project against the Year Five budget. During the period the project expended \$3,342,200. This included \$1,248,684 in core funds and \$2,093,515 in field support funds. This leaves a remainder as of September 30, 2010 of \$1,065,663 which is expected to be spent down by the end of the extension period November 29, 2010.

For Task One expenditures reflect the POUZN team's efforts in preparing the project's annual report and finalizing both the overall Year Five Work Plan and the Pakistan Work Plan.

A majority of the POUZN Year Five budget is in Task Two, Program Implementation. For POU, this encompasses implementation of programs in Bangladesh, Malawi, Rwanda, Benin, Haiti, DR Congo and Kenya. For zinc, the work plan includes implementation of programs in Pakistan, Benin and Madagascar. Funds were also spent for the provision of technical assistance to current or potential new field programs. Core funds that were originally allocated for the Bangladesh program that were not spent down due to delays in product registration have been allocated to the PSI POU India program and to cover final reporting and global leadership activities.

Expenditures for Task Three and Four represent activities relating to global leadership (participation at conferences, hosting the end-of-project conference, and preparation of country briefs, research reports and other reports for dissemination), final field evaluations for POU programs in Kenya and DR Congo, and implementation of monitoring and evaluation activities.

Table 6: Budget and Expenditures, POUZN Year 5

	Budget Year 5	Expenditures	Remaining
Task One: Work Plan Development			
Core Workplan Dev/Reporting	<u>\$87,000</u>	<u>\$82,169</u>	<u>\$4,831</u>
Subtotal	\$87,000	\$82,169	\$4,831
Task Two: Implementation			
POU Rwanda	\$38,887	\$38,869	\$18
POU Haiti	\$28,200	\$2,990	\$25,210
POU Bangladesh	\$359,000	\$53,257	\$305,743
Zinc Pakistan	\$603,000	\$449,182	\$153,818
Zinc Technical Assistance	\$45,000	\$23,553	\$21,447
POU Technical Assistance	<u>\$50,000</u>	<u>\$40,676</u>	<u>\$9,324</u>
Subtotal	\$1,124,087	\$608,528	\$515,559
Task Three: Global Partnerships/Leadership			
Global Leadership	\$225,500	\$252,685	-\$27,185
Communications/Publications	<u>\$86,500</u>	<u>\$73,069</u>	<u>\$13,431</u>
Subtotal	\$312,000	\$325,754	-\$13,754

Task Four: Monitoring and Evaluation

Monitoring Plan Dev/Reporting	\$265,000	\$232,233	\$32,767
TOTAL CORE	\$1,788,087	\$1,248,684	\$539,403
Rwanda HIV	\$49,640	\$34,711	\$14,929
Rwanda Field MCH	\$25,000	\$17,900	\$7,100
Malawi Field	\$295,887	\$282,016	\$13,871
Kenya Field	\$21,350	\$17,824	\$3,526
Madagascar Zinc	\$1,239,329	\$840,366	\$398,963
Benin Field POU	\$692,940	\$613,891	\$79,049
Benin Field Zinc	\$295,630	\$286,808	\$8,822
Field Program Subtotal	\$2,619,776	\$2,093,515	\$526,261
Project TOTALS	\$4,407,863	\$3,342,200	\$1,065,663