

Where in the world is RTI



INTERNATIONAL DEVELOPMENT

BIMONTHLY OCTOBER/NOVEMBER 2009

Starting Up

Senegal's Entrepreneurs Build Water and Sanitation for Health

In Senegal, a country of 13.7 million people, there are great disparities in access to essential water and sanitation services between urban and rural populations.

Of the 1 million rural residents in the Casamance region in southern Senegal, less than half had access to safe water at the end of 2007, and only 17% had access to improved sanitation, according to the national water and sanitation coordinating organization.

RTI International has been awarded a five-year grant by the U.S. Agency for International Development (USAID) to improve sustainable access to water supply and sanitation and to promote better hygiene in targeted small, rural towns and peri-urban areas. The initial focus will be on the Casamance, *continued on page 4*

Early Detection of Reading Difficulties in Mali

"It is time, high time, for us to come together and address the problems of our schools," said M. Modibo Sidibé, Prime Minister of Mali, in March 2008. The Minister spoke to the country's alarming quality of education and dissatisfaction among Malian parents regarding the education system.

Improvements in literacy rates are one of the areas receiving attention. The education system's outdated literacy programs are ill-equipped for measuring achievement in French or any of Mali's other national languages, yet students are required to



An official from the Ministry of Education administers the Early Grade Reading Assessment to a student in Mali. [Photo: Wendi Ralaingita]

continued on page 3

Tackling Coal-Fired Power Plant Emissions in Shandong Province, China

China is intensively seeking to reduce harmful air pollutant emissions from its coal-fired power plants, which generate more than two-thirds of the country's electricity.

National and provincial agencies in China have imposed stricter requirements to control air pollution and power plant emissions, including nitrogen oxide (NO_x). The plants release NO_x as a combustion exhaust gas through tall smokestacks. NO_x is an essential component in the atmospheric formation of acid rain, smog, and ozone.



China is evaluating technologies used in the United States to reduce nitrogen oxide emissions at coal-fired power plants. A demonstration plant in Shandong Province will be retrofitted with advanced emission control systems. [Photo: Robert Zerbonia]

China is exploring advanced technologies—such as selective catalytic reduction (SCR)—used at power plants in the United States to control NO_x emissions. RTI is assisting the Shandong Provincial Environmental Protection Bureau (SEPBB) to investigate the feasibility and facilitate the retrofitting of denitrification technology at a selected coal-fired power plant in Shandong Province. The U.S. Trade and Development Agency is funding this 12-month effort, the Shandong Flue Gas Denitrification (deNO_x) Project. It will help SEPBB assess the potential for installing deNO_x technology at power plants throughout the province.

"When the deNO_x technology is chosen, we will prepare a site-specific conceptual design and cost estimate, develop implementation and financial plans, and conduct

continued on page 4

Middle School Matters: Engaging Communities in Senegal to Support Education for All Children

A decade ago, middle school enrollment in Senegal hovered at less than a quarter of eligible students. A severe lack of middle schools—particularly in rural areas—contributed to the country’s dismal rate of secondary education. To compound the matter, demand for middle schools in rural areas remained low; many parents could not see the relevance of such education for their children, especially their daughters.

In recent years, efforts by the government of Senegal to improve access to education have boosted primary school enrollment. Now those children are ready to move on to middle school, but the limited number of schools, coupled with community resistance in some areas, continues to inhibit their attendance.

RTI has been working since 2003 as a subcontractor to the Academy for Educational Development (AED) to assist Senegal’s Ministry of Education in increasing the number and quality of middle schools in rural areas, as well as improving girls’ enrollment rates. This U.S. Agency for International Development-funded *Projet d’Appui à l’Enseignement Moyen* (USAID/PAEM) works in nearly 60 villages across four of Senegal’s poorest and most rural regions: Fatick, Tambacounda, Kolda, and Ziguinchor. In these areas, girls’ enrollment in middle school has more than doubled since the project began.

During the early years of the project, RTI helped the government formulate and implement school decentralization policies. Since 2007, RTI has also focused on mobilizing communities to construct, manage, and support neighborhood middle schools.

Supporting Decentralization Management

In 2003, RTI began collaborating with the Ministry of Education’s Department of Middle and Secondary Education to help clarify policy, roles, and operational strengths and weaknesses across structures and levels of the education system in the context of the government’s new strategy for improving educational access, quality, and management.



A group of men strategizing at a USAID/PAEM community mobilization workshop. [Photo: USAID/PAEM staff]

As the project helped facilitate the construction of 58 neighborhood middle schools, RTI assisted in building national, regional, and local capacities to support new school communities in understanding and sustainably implementing the government’s education strategy. For example, officials from project-supported schools are now positioned to make more effective school management decisions because they understand how to inform those decisions with essential information, such as student performance assessments. More than half the project-

supported schools now regularly engage the public in forums to present school performance information and annual budget reviews, drawing high community attendance.

“These forums make schools accountable to their communities, which spurs solid performance and builds trust within the communities,” said Oumar Diong, USAID/PAEM National Coordinator for Management.

At the local level, school management committees (SMCs)—composed of parents, principals, teachers, students, youths, and women’s association representatives—take responsibility for much of the school development planning and maintenance. RTI ran five workshops—with total attendance of more than 400 SMC members—which discussed goals and objectives of the government’s education strategy, middle school management concepts, the school development planning process, and school maintenance organization and practice. SMC representatives also participated in training on the implementation of school improvement plans. Today, all project-supported schools have functional SMCs.

Improving the Ability of Communities to Support Their Children’s Education

In rural Senegal, where many neighborhoods now have their first middle schools, community engagement is crucial to school sustainability and success. RTI is mobilizing communities to support schools in a number of ways.

“The project helps communities understand the benefits of

continued on page 3

Middle School Matters (continued)

sending their children to middle school—that their children will gain skills necessary to seek further education or professional opportunities that would otherwise be unavailable to them,” said Rokhaya Thioune, USAID/PAEM Community Mobilization Coordinator. “It also builds awareness that communities have a responsibility to support and oversee the schools.”



Women from the school community help run day camps for the children during school vacation. [Photo: USAID/PAEM staff]

To effectively reach new school communities, the project assembled a 40-person team—consisting of government, nongovernmental organization, and civil society representatives—to carry out mobilization activities. These activities have reached more than 3,000 people from several target groups, including parent-teacher associations, students, opinion leaders, local authorities, youths, and women’s associations.

“I am illiterate, but since the school construction, I never miss a meeting of the SMC,” said a mother from a women’s association in Ndindifelo. “Participating in the meetings has really opened my eyes to my daily responsibilities and the benefits schooling provides for my children. Every day, I make sure the kids are awake early, are properly dressed, have their breakfast, and are not late to school.”

Cultural views on the role of women, as well as the long distances students once had to travel to attend the nearest middle school, have historically prevented girls from gaining education past primary school. The project works to inform parents and broader communities of the value of education not only for their sons, but also for their daughters.

The project has developed awareness campaigns highlighting the negative consequences of early marriage and pregnancy for the education and health of young girls. These campaigns have opened discussion about these once-taboo topics. In addition, the campaigns discuss the necessity of homework and encourage parents to lessen the

domestic workload on their daughters to allow them time to study. Some middle schools have noted that the incidence of student pregnancy has decreased by up to one-third since the awareness campaigns began, and that parents are more willing to enroll their daughters and better understand the intensity of their children’s studies.

“These 58 communities now possess the school facilities, management techniques, and awareness to offer their children a stronger educational foundation than ever before,” Diong said.

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Detection of Reading Difficulties in Mali (continued)

demonstrate French literacy before they graduate from grade 9. Schools also differ in the languages in which they teach. Some schools teach exclusively in French, while others teach in Arabic or local languages first and transition to French around grade 2 or 3.

As a subcontractor to Education Development Center under the Road to Reading Program/Programme Harmonisé d’Appui au Renforcement de l’Education (PHARE; 2008–2013), funded by the U.S. Agency for International Development (USAID), RTI is leading an initiative to improve assessment of student literacy and numeracy. The project aims to reach 40,000 classrooms and 2 million students nationally.

RTI worked closely with the Centre National de l’Education (CNE) to adapt the Early Grade Reading Assessment (EGRA)—a 15-minute oral test designed by RTI with USAID support to measure pre-reading skills such as phonemic awareness and listening comprehension—to the Malian context. RTI will test students’ literacy in French in grades 2, 4, and 6, as well as in grades 4 and 6 in Arabic, at several time points to track how well school programs are doing. Results from the assessments will assist in informing PHARE teacher training interventions.

“If you can identify in the early grades where a student is struggling, it is easier to help that student. Also, the ability to read is an indicator of success more generally in schools,” said Wendi Ralaingita, Education Research Analyst at RTI. “Using assessment information about reading problems to inform teacher training programs can help make systemic improvements.”

RTI will also pilot the new Early Grade Mathematics Assessment (EGMA), similar to EGRA, in a sample of schools in the Bamako/Koulikoro area and later at the district and national levels.

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Senegal's Entrepreneurs (continued)

but the project will expand to one or two more regions and is expected to benefit 250,000 people directly.

Under the USAID Senegal Water and Sanitation Project (2009–2014), RTI and its partners will set up or revive water user associations in communities that lack such a planning and oversight mechanism. They will also supply technical and business training to help launch small enterprises to manufacture drilling tools, water pumps, and latrine slabs, and to offer services such as drilling wells, installing and maintaining pumps, and building and maintaining latrines.



A hand-operated rope pump installation. This type of low-cost, hand-drilled well is an effective alternative to conventional drilling in some locations in Senegal. [Photo: Fathi Kraiem]

“These entrepreneurs will provide a public good using local capacity and locally available materials and will generate their own revenue doing so,” said Richard Cartier, Chief of Party.

RTI and its partners will also promote demand for improved water and sanitation services through a social marketing strategy to reach schools, women’s groups, and individual households with messages about safe water

Where in the World Is RTI is a bimonthly publication intended to inform clients and partner organizations about RTI’s global activities and research areas. RTI is dedicated to improving the human condition in developing and emerging countries. RTI has worked for over 40 years in 140 countries around the world.

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storage, hand washing, feces disposal, and other topics through formative research, interpersonal and consumer communications, media campaigns, and print materials.

RTI project manager Alan Wyatt noted that the project will collaborate with other water and sanitation programs sponsored by the African Development Bank, UNICEF, and others, as well as local offices of central government ministries concerned with health, sanitation, and water supply.

The U.S. Agency for International Development administers the U.S. foreign assistance program providing economic and humanitarian assistance in more than 120 countries worldwide.

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Power Plant Emissions in China (continued)

environmental and regulatory reviews—everything needed for a bid specification to procure and install the deNO_x system at the power plant,” said Paul Peterson, RTI Senior Research Environmental Engineer.

Under a previous project, RTI assisted SEPB with the evaluation and selection of controls to reduce sulfur dioxide (SO₂) emissions at 10 coal-fired power plants in Shandong Province. “RTI’s recommendations for the most cost-effective SO₂ approaches were optimal for each site, and we established valued relationships with SEPB officials and plant owners,” said Robert Zerbonia, Project Manager.

At the end of the current project, RTI will provide a seminar for plant owners and operators on the use of deNO_x systems for NO_x emissions control at coal-fired power plants. U.S. suppliers of deNO_x systems will be invited to make presentations.

“RTI’s contributions will also enable knowledge and technology transfer, which will help SEPB develop its capabilities to use deNO_x technology to reduce power plant air pollutant emissions in China,” Zerbonia said.

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Selected Publications

Pattanayak, Subhrendu, **Martin Ross**, **Brooks Depro**, Simone Bauch, Christopher Timmins, Kelly Wendland, and Keith Alger. (2009). “Climate Change and Conservation in Brazil: CGE Evaluation of Health and Wealth Impacts.” *The B.E. Journal of Economic Analysis & Policy*, 9(2), Contributions, Article 6.

Soplop, Julia, **Anna Wetterberg**, **Ignatius Indriartoto**, **María José de León Pellecer**, **Tere Ligorria Goicolea**, and **Manuel Roman Lacayo**. (September 2009). *Increasing Development Impact: Channeling Corporate Social Responsibility Funds Through Public-Private Partnerships*. RTI Press publication No. OP-0002-0909.