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INTEGRATED DEVELOPMENT IN FOCUS

Ghana

Equator Prize Winner

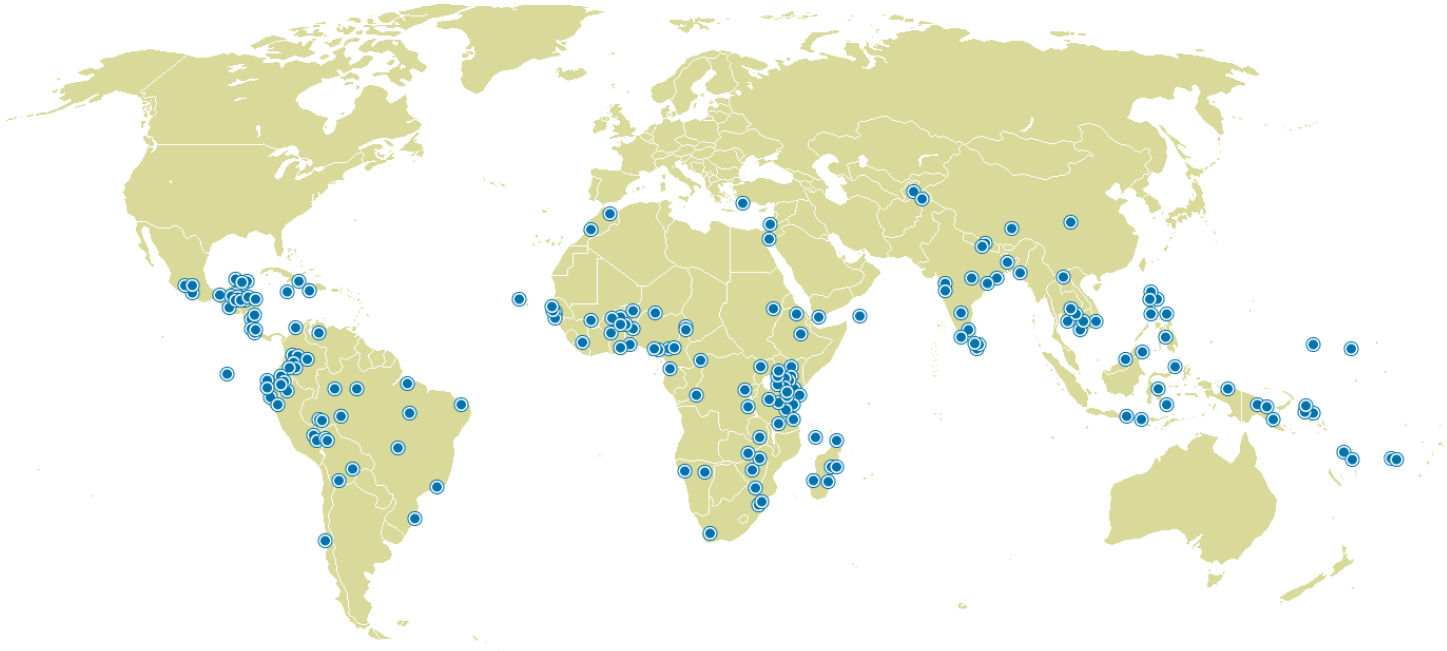
Equator Initiative Case Studies

Local sustainable development solutions for people, nature, and resilient communities

UNDP EQUATOR INITIATIVE CASE STUDY SERIES

Local and indigenous communities across the world are advancing innovative sustainable development solutions that work for people and for nature. Few publications or case studies tell the full story of how such initiatives evolve, the breadth of their impacts, or how they change over time. Fewer still have undertaken to tell these stories with community practitioners themselves guiding the narrative. The Equator Initiative aims to fill this gap.

UNDP's Equator Initiative, in partnership with ENDA Tiers Monde (ENDA), Open Society Initiative for Southern Africa (OSISA), United Nations Convention to Combat Desertification (UNCCD), and funded by the Global Environment Facility (GEF), identified examples of local ingenuity, innovation, and leadership in sustainable land management (SLM) in drylands in Sub-Saharan Africa. The following case study is one in a series that describes vetted and peer-reviewed best practices in SLM management, with the purpose of inspiring the policy dialogue needed to take local success to scale, to improve the global knowledge base on local environment and development solutions, and to serve as a model for replication.



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PROJECT SUMMARY

By equipping women with financial and technical resources to restore degraded lands and develop small-scale enterprises, Integrated Development in Focus is steadily improving crop yields and local incomes. Women-led groups have planted three million trees and restored 350 hectares of land. Communal labor prepares and maintains individual plots of land on a rotating basis. Farmers are trained in organic farming techniques and supported to access new and more lucrative markets for their produce. Growth is ensured through a model whereby each woman who receives training is responsible for training ten other women as a condition of support. Small-scale businesses have been launched in livestock rearing, composting and organic vegetable cultivation. Partnerships with local municipalities, chiefs and elders support fire management and environmental watchdog communities.

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KEY FACTS

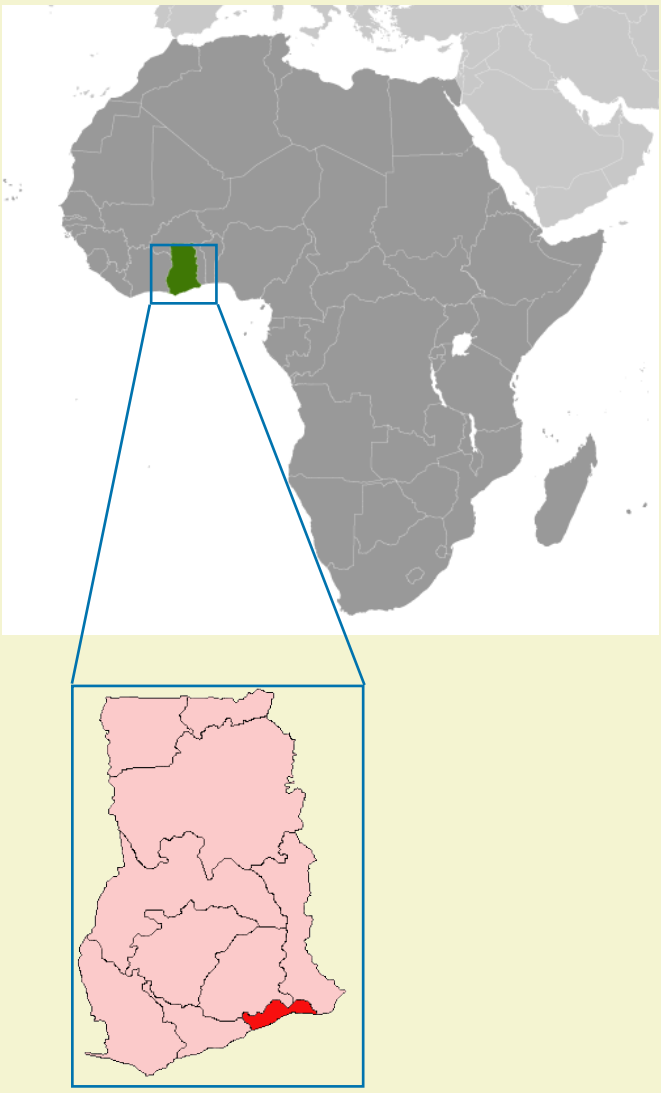
EQUATOR PRIZE WINNER: 2014

FOUNDED: 2005

LOCATION: Ga West Municipality, Greater Accra Region, Ghana

BENEFICIARIES: Farmers in six communities (300+ and growing)

AREA OF FOCUS: Biodiversity, ;and reclamation



Background and Context

Integrated Development in Focus (DIF) is a capacity-building social development NGO working in the Greater Accra Region of Ghana. The organization focuses on public health and rural development issues. Its "Restoration of degraded lands through sustainable land management, biodiversity conservation and sustainable livelihoods activities" project was initiated in 2009 in Ga West Municipality in the communities of Yaoman, Okushiebiade and Akramaman.

Ga West Municipality is west of metropolitan Accra, Ghana's capital. The terrain is lowland, undulating coastal savannah with an average elevation of 75 meters. The climate is hot and humid, but relatively dry, receiving on average 700-800 millimeters of rain per year. The main economic activities in Ga West are subsistence and commercial farming, fishing, fuel wood and charcoal production, trading and small-scale quarrying. Despite the area's proximity to metropolitan Accra, the area is rural and receives few government services such as water, electricity, schools and health care. Unemployment, illiteracy and poverty are endemic in Ga West Municipality.

The soils in Ga West Municipality are sandy and have been targeted by predatory sand miners who supply Accra's booming construction industry with raw materials. Integrated Development in Focus estimates that more than 40% of the supply of sand for construction in the Greater Accra Region comes from the area. Dust, noise and air pollution from bulldozers and dump trucks are constant as tons of sand are removed each day from the area. Sand mining is poorly regulated and illegal extraction is common, resulting in the removal of topsoil and extreme habitat degradation. Sand mining produces deep gashes in the earth which subsequently fill with water and mosquitoes, exposing local residents to the threat of malaria. Land degradation is further exacerbated by felling of trees for fuel wood and charcoal production, and bushfires set by hunters in search of bush meat.

Integrated Development in Focus targets female farmers living in three communities of Ga West as its major beneficiaries. Before the inception of the initiative, most female farmers in the area had lost their farmland to sand mining operations and were farming on borrowed lands. The women lived in extreme poverty, earning money from collecting fuel wood. Due to the environmental degradation in the area, most of the men had emigrated in search of better opportunities, leaving the women to struggle as single heads of households. The women farmers were unable to pay their children's school fees and food insecurity and malnourishment were common.

Key Activities and Innovations

By using organic farming methods and agroforestry, female farmers in Ga West Municipality have transformed sand mining wastelands into verdant, productive farmland.

Land reclamation

Sand mining operations remove topsoil, leaving infertile barrens in their wake. As a first step in the reclamation of such lands, farmers receive training in how to make compost from locally available materials. Each farmer is provided with a composting kit and instructed in how to prepare compost using inputs of domestic and farm waste and animal manure. The compost kits keep household areas tidy, reduce unpleasant smells and retain heat and moisture necessary for decomposition. Once initiated, farmers are able to produce nearly 15 kilograms of compost daily for use on farms as well as for sale.

Rehabilitation of soil fertility is enhanced through reforestation. With seedlings and training provided by Ghana's Ministry of Food and Agriculture, Integrated Development in Focus helped the communities establish tree nurseries. To date, farmers have planted more than 3 million trees on lands degraded by sand mining. The trees furnish shade, prevent soil erosion, retain water, add nutrients to the soil and contribute to carbon sequestration. Trees selected for reforestation serve a variety of purposes and yield a range of useful products, some of which are marketed by the farmers. For example, moringa (Moringa oleifera) produces edible leaves that are rich in vitamins and nutrients and can be sold as a cash crop. The leaves of the neem tree (Azadirachta indica) provide farmers with a natural pesticide that is used to protect their agricultural crops. Acacia (Acacia spp.) and Leucaena leucocephala are nitrogen-fixing trees which enhance soil fertility. Mangos and other fruit trees add variety to household diets and find a ready market in the city and its surrounding districts. In addition, farmers are provided with efficient cooking stoves to reduce fuel wood harvesting pressure on newly planted woodlots.

Farmers are trained in sustainable agricultural techniques that enhance the water holding capacity of soils while preventing erosion. Water needs are addressed through the digging of furrows and use of simple drip irrigation. No-till practices avoid soil compaction, contribute to the retention of soil nutrients and improve soil carbon storage. Farmers are introduced to concepts of intercropping and crop rotation using fallow periods. In addition to staple crops such as maize and cow peas, farmers are provided with sesame seeds, sorghum, groundnuts and other marketable species. As a tripartite strategy, the use of composting, agroforestry, and conservation agriculture has restored soils rendered infertile by sand mining. Over

the five year life of the project, farmers have restored more than 350 hectares of degraded lands and farm yields have steadily increased.

In each community, farmers not only work individual fields, but also maintain a community garden, the proceeds of which enter a community savings scheme. Each community has formed a sustainable land management committee that is responsible for educating community members on environmental issues, introducing innovative farming techniques and planning for further rehabilitation of degraded lands. Subsidiary groups within each community have been established to oversee the sale of farm produce, poultry and farm animals to the public. DIF facilitates market linkages for these marketing groups. Farmers are also trained in fire suppression and each community has created a fire management committee to police and prevent bushfires.

Small livestock

Farmers are given breeding pairs of grass cutters, chickens, guinea fowl, sheep, and goats. They are then trained in pen construction and animal husbandry. The production of local sources of protein addresses malnutrition and provides farmers with an extra source of income. The livestock also produce manure which is composted and contributes to soil fertility. Integrated Development in Focus established a demonstration and learning center for the raising of ruminants in Yaoman which educates and inspires farmers from across Ga West Municipality.

"When local communities are empowered to manage natural resources, they share the knowledge gained in language that is most understood by local members hence larger number of locals are empowered."

Abraham Godbless Ashie

Impacts

BIODIVERSITY IMPACTS

Integrated Development in Focus has provided female farmers with an interlinked, holistic approach to land reclamation and economic development. The strategies have rehabilitated land, improved local environmental conditions, supported livelihoods and guaranteed food security.

Improving the local environment

Farmers have rehabilitated denuded lands left in the wake of sand mining. Fundamental to the restoration of habitat is the building of soil biodiversity through composting and agroforestry. As trees and crops have taken root, soil micro-organisms have returned and multiplied. The restoration of tree cover has attracted wildlife such as lizards, snakes, insects and birds. The newly planted forests act as peri-urban greenways and provide shade, help restore the water table and sequester carbon. Planted trees provide farmers with a source of fuel wood, reducing harvest pressure on remaining stands of natural woodlands.

750 metric tons of domestic waste, once previously burned, are now composted and used to enhance soil fertility. Bushfires that once caused widespread environmental degradation are controlled. The introduction of fuel efficient stoves and the suppression of bushfires by local vigilance communities have improved air quality in the communities, reduced incidences of respiratory problems and curbed emissions of greenhouse gases.

Protecting water quality in a Ramsar watershed

The communities of Yaoman, Okushiebiade and Akramaman are located in the watershed that feeds the Densu Delta, an internationally-significant wetland complex recognized as a Ramsar site under the Ramsar Convention. The Densu Delta estuary is a varied habitat of sand dunes, saltpans, scrub forest, mangrove stands and beaches. The area supports more than 50 species of shore birds, 15 species of fish and various crustaceans and mollusks. Three marine turtles – the green turtle, the leatherback turtle and the Olive Ridley turtle – nest on beaches in the Densu Delta. In addition to its wildlife and scenic beauty, the Densu Delta provides critical environmental services including groundwater recharging, flood control and coastal stabilization.

Land reclamation activities in Ga West Municipality have had a positive impact on the conservation of the Densu Delta. Villagers report that re-vegetation of lands has restored the flow of formerly dry creek beds. In addition, organic agriculture practices and reforestation have slowed erosion and reduced siltation, thereby improving the water quality of tributaries that flow into the Densu Delta. Creation of greenbelts in the Densu Delta watershed positively contributes to the functioning of the Densu estuary and serves as a buffer zone to stem further human encroachment in the area.

SOCIOECONOMIC IMPACTS

Increased food security

The combination of organic farming, agroforestry and small livestock is providing Ga West farmers with enough food to meet their household needs year-round with surplus for sale to the marketplace. Diversification of farm outputs has produced a varied diet of cereals, vegetables, fruits, edible tree leaves and animal protein that has improved food security and reduced malnutrition. The farmers in Ga West are able to grow their own organic crops without reliance on chemical fertilizers and pesticides, providing their families with healthy produce and reducing their risk of exposure to potentially harmful pesticides.

Improved livelihoods

Women farmers are earning enough income from their farm products that they are now able to send their children to school and pay for

their family's healthcare expenses. Poor farmers, once unaccustomed to financial surplus, have embraced the concepts of saving and re-investment. Integrated Development in Focus reports that more than 70 percent of farmers are re-investing in small livestock and pens to increase their income. Each community cooperative has its own bank account which is supported by contributions from its members. A portion of the bank account is used as a revolving fund to support new farmers who wish to purchase seed or livestock. The fund gives borrowers ready access to credit at reasonable rates with negotiated pay-back schedules. The village savings and credit scheme has helped farmers start their own businesses and is also used to help members in need during illness or periods of bereavement.

Local capacity building

Due to the low levels of education among many of the women farmers, Integrated Development in Focus convenes non-formal educational courses in basic reading, writing and mathematics for community members. These courses introduce basic concepts of marketing, budgeting and bookkeeping and give farmers the skills and confidence they require to market their products to the public.

Integrated Development in Focus also provides farmers with basic health education about hygiene and the prevention of communicable diseases such as tuberculosis and established a system that enables farmers and their children to receive quarterly health screening. None of the trained farmers were sickened during a recent outbreak of cholera in Ga West Municipality, a testament to the efficacy and value of the health trainings.

The Ga West farmers are building the future capacity of their communities by investing in education. Communal funds in one community were dedicated to the construction of a school. A DIF survey of farmers found that women now earn enough income to support the education of 138 junior high school students and 63 senior high school students.

Resilience

Climate change has made rain events more erratic in the Greater Accra Region, leading to erosion, reduced crop yields, heat waves, and food insecurity. Diversification of farm outputs and sources of income has made the communities of Yaoman, Okushiebiade and Akramaman more resilient to economic and environmental shocks. By building capacity and inter-cooperation among farmers, community members are able to evaluate and adjust farming practices to incorporate local innovations and traditional knowledge. The use of local crop varieties and drought-resistant species provide a buffer against climate change, as do organic soils, which tend to be more drought-resistant than conventionally managed soils. Some men who had previously left Ga West Municipality in search of better economic circumstances have returned to take up farming. Similarly, the expansion of economic prospects within the area has help to retain youth. These developments are positive indicators for enhancing long-term social stability.

GENDER

Integrated Development in Focus is committed to gender equality and the majority of its projects specifically target women as beneficiaries. Integrated Development in Focus's executive director is female, as is the organization's monitoring and evaluation officer. In the Ga West Municipal land reclamation and economic development project, more than 90 percent of the beneficiaries are women. The initiative empowers female farmers by providing them with knowledge, skills and diverse sources of income. This has built self-reliance and social capital amongst the women farmers and created a mutual support network that has improved the communities. Although male chiefs and elders still hold the majority of power in the Ga West communities, women now have a greater voice and higher social standing.

POLICY IMPACTS

The land reclamation initiative has captured the attention of local policy makers because it addresses a difficult environment problem and is accomplished by a formerly marginalized group of women with little or no education. Thomas Okine, former Presiding Member of the Ga West Municipal Assembly, expressed admiration for the project. "The organization and engagement of women with an issue no one wanted to talk about (sand mining) - and building their capacity to take on environmental problems with their own hands and turn a poor situation into a possible situation - I think that alone is innovative enough. That land which was previously abandoned due to sand mining is now growing tradable farm produce is amazing." The initiative helped catalyze chiefs, elders and members of the Ga West District Assembly to come together to enact bylaws to protect reclaimed lands from sand mining. The formation of neighborhood environmental watchdog committees assists in the monitoring of sand mining activities and reports of environmental abuses are relayed to chiefs, elders and local authorities. Female farmers from the Ga West communities regularly take part in municipal, district, regional, and national conferences addressing environmental sustainability and conservation issues where they share their experiences and encourage community groups facing similar challenges. The

communities also host exchange visits and field trips. For example, the village of Yaoman welcomed government officials, civil society groups and journalists for a tour of their farmlands and learning center on World Environment Day in 2012.

Demographic models predict increasing rural-urban migration in the tropics, driven in large part by job opportunities and climate change. By 2050, more than 50 percent of Africans and nearly two thirds of all Asians are expected to be living in urban areas. Urban and peri-urban farms supply city dwellers with fresh, nutritious, perishable produce. The proximity of urban and peri-urban farms to city markets reduces the costs and carbon footprint of food transport and refrigeration. Many tropical cities lack sufficient green spaces and act as "heat traps." Greenways created by urban and peri-urban farms increase urban resilience to climate change events, such as prolonged heat waves, and should accordingly be acknowledged and promoted by policy makers and urban planners.

"When local communities are empowered, they form generational policies that promote the management and supervision of natural resources and these policies are respected and adhered to because they themselves formulated these policies."

Abraham Godbless Ashie

Sustainability and Replication

SUSTAINABILITY

A 2013 audit of the farmer cooperatives in Ga West revealed that sales of produce, meats and membership dues covered more than 70 percent of operating costs. Supplemental income to support the communities is provided by the Ga West Municipal Assembly and the Methodist Development Agency. Once trained, farmers are able to save their own seeds and rear additional livestock, which promises to make the initiative financially self-sufficient in the future. Each trained farmer also pledges to educate ten additional farmers in sustainable farming techniques, thereby providing low-cost continuity of the program at the community level. The establishment of plant nurseries, the use of low-cost, locally-available materials and the existence of village savings and credit schemes have enabled continuous expansion of the initiative. Female farmers have been empowered to make decisions and are full participants in the planning and implementation of land reclamation projects. Local ownership of the project combined with capacity building in the communities has provided a solid foundation for the long term sustainability of peri-urban horticulture in Ga West.

REPLICATION

The success of the land reclamation activities in Yaoman, Okushiebiade and Akramaman created considerable local enthusiasm and the initiative has since been replicated in three additional Ga West communities (Meyikpor, Sogrunu-Korpe and Onyansana). The use of organic farming, agroforestry and small animal livestock as a land reclamation and development tool was recognized by Ga West Municipal's Agricultural Division, which mainstreamed the strategy in the district's agricultural plan. Given the extent of land degradation due to sand mining and deforestation in areas surrounding metropolises across the tropics, the restoration strategy shows great potential for replication on a broad scale. One potential drawback to its widespread adoption is the relatively high cost of implementation, which includes trainings, technology transfer and the initial provision of seeds and livestock.

PARTNERS

The "Restoration of degraded lands through sustainable land management, biodiversity conservation and sustainable livelihood activities" project was funded by the Methodist Church and the Global Environmental Facility's (GEF) Small Grants Program (SGP), administered through the United Nations Development Programme (UNDP). UNDP staff also provided technical support to the project. Extension agents from Ghana's Ministry of Food and Agriculture (MOFA) trained farmers in best agricultural practices. Agricultural trainings

were supplemented by consultations with past winners of the Ga West Municipal "Best Farmer" award. Partnerships between Integrated Development in Focus and local chiefs and elders were crucial to securing access to lands for reclamation. The Ga West Municipal Assembly provided a tractor to prepare reclaimed lands for farming. The Ga West Municipal Assembly additionally supported the project by convening local forums and through legislation.

"We want the world to know that, concerted and collective effort is the key to fight climate change. That fighting climate change should not be at round table in decorated conferences with smooth speeches, but in small communities that are battling the extreme burden of climate change, where climate change is rendering women, children and young people impoverished and leaving them in the state of hopelessness. The time to act was yesterday, but we can do something today for tomorrow."

Abraham Godbless Ashie

FURTHER REFERENCE

- Integrated Development in Focus website
- Ga West Municipal Assembly website
- FAO. 2012. Growing greener cities in Africa. First status report on urban and peri-urban horticulture in Africa. Rome, Food and Agriculture Organization of the United Nations.

PROJECT PARTNERS

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The Equator Initiative brings together the United Nations, governments, civil society, businesses and grassroots organizations to recognize and advance local sustainable development solutions for people, nature and resilient communities.

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