

AISDEVELOPMENT CORPORATE CAPABILITIES IN SUSTAINABLE AQUACULTURE AND FISHERIES

AISDevelopment (AISD) is a small, woman-owned HUB Zone company specializing in sustainable aquaculture and fisheries and market-oriented small and medium enterprise (SME) development, with a focus on rural poverty alleviation and market development. AISD services are aimed at linking communities to markets to create economic and social opportunity by leveraging private sector business models that integrate community development, competitiveness and sustainable use of natural resources.

AISD specializes in environmentally sustainable commercial aquaculture, fisheries, fish processing, and coastal resources management. AISD offers solutions that balance the demands of economic growth and food security with sustainable environmental resources management in the fisheries sector. AISD provides technical assistance to private companies, donors, and associations in the following areas:

AISD is a sponsor of the **Global Aquaculture Alliance**, an international, nonprofit trade association dedicated to advancing environmentally and socially responsible aquaculture.

- Culture research and development across a range of species, including scallops, squid, shrimp, Tilapia, catfish, and exotic species
- Production systems
- Value added product development
- Quality control, standards and testing (e.g., HACCP, EU standards)
- Post harvest storage, processing, and packaging
- Market access, product promotion, and traceability systems
- Best Aquaculture Practices (BAP) and certification
- Environmental monitoring and modeling
- Aquaculture legal and regulatory frameworks, fisheries and management plans and enforcement mechanisms
- Investment project development and feasibility analysis
- Project supervision and evaluation
- Trade finance
- Contract farming (outgrower programs)
- Vendor managed inventory
- Producer organization and business association strengthening
- Fisheries management planning
- Coastal resources management planning
- Competitiveness strategies and cluster development services

The AISD team has over 45 years of private commercial agribusiness trade and enterprise development experience in Africa, Asia, Eurasia, and Latin America. AISD has operated agribusinesses in developing countries, has direct links to international agribusiness markets, and enjoys a wide network of international buyers, suppliers and processors. AISD's competitive advantages in agribusiness and enterprise development include:

- **Outgrower model for supply chain management based on household contracting.** The agriculture sector in most developing economies is dominated by smallholders and small producers, who lack the resources and organization to reach markets, and who rely on subsistence farming for food security. AISD has developed a household contracting model for bringing market opportunities to large numbers of individual households, raising incomes and food security and alleviating poverty, while creating economies of scale and ensuring product standards.
- **Proven systems for food safety and quality, international standards testing and compliance, and traceability.** AISD's product coding approach has been successfully applied in China and has been recognized by major US seafood importers as an effective way to ensure food safety and quality from "production to plate." The traceability model creates accountability and market incentives for compliance with environmental, safety and quality standards.

Darden Award for Food and Beverage Quality and Safety

Darden Restaurants, owners of Red Lobster and the Olive Garden, awarded AISD's Executive Vice President, Andrew Kaelin, the Quality and Safety Award for prevention of use of antibiotics and extension of shelf life in seafood, for aquaculture products produced and imported from China.
- **Market driven business development services (BDS) capacity building.** AISD has developed and implemented an effective BDS model, in which BDS providers market their services not only to processors and producers, but to external buyers as well. AISD's model represents an innovation on approaches to consultant capacity building, because it links BDS providers directly into the value chain and to external buyers, on the premise that the only way processors and producers will value (and pay for) training and consulting services is if they lead directly to sales. The BDS providers thus offer the critical link to external markets that is often missing in BDS approaches. In cluster terms, BDS providers become "related and supporting" members of the value chain.
- **Innovative utilization of ICTs to support market access and competitiveness.** AISD provides demand driven solutions to making ICTs accessible, affordable, and relevant to enterprises, pioneering cell phone SMS based services for delivering market information to rural areas.
- **Effective alliances among value chain firms, certification organizations, donors, and governments.** AISD develops public private partnerships where commercial business strategies coincide with the objectives of development actors including governments, donors, and non-governmental organizations. AISD has a strategic partnership with the Aquaculture Certification Council, a nongovernmental body established to certify social, environmental and food safety standards at aquaculture facilities throughout the world through application of Best Aquaculture Practices (BAP) and certification

AISD has a highly qualified pool of over 150 aquaculture and fisheries experts, covering virtually all currently farmed species, at all levels of the value chain, including specializations in feed development, specific pathogen free species (SPF), and gender. Most of our consultants have both research and practical experience, consistent with our approach to combining the science with the market to produce a safe, high quality and environmentally friendly product that meets market requirements.

AISD PROJECT EXPERIENCE

- Under a USAID funded competitiveness project in Uganda, AISD principals facilitated the development of a national level working group for the fisheries sector (including Lakes Victoria, Edward and Albert), comprising public, private and non-governmental representatives, which resulted in a national strategy for the fisheries sector. A major impact of project in the fisheries sector was in changing unrealistic perceptions relating to the sustainability of capture fisheries, especially among national government officials, and gaining acceptance of the potential for commercial aquaculture as the strategic cornerstone of Uganda's competitiveness, poverty alleviation, and lake management strategies. Subsequently, USAID, other donors, and the private sector have initiated production trials and investment in sustainable commercial aquaculture development.
- In cooperation with MTN (Uganda's major cellular service provider), SMS-Ads and Impact Associates (a Uganda software company and a small Ugandan consulting firm), COMPETE launched a price information service delivered via cellular phone Short Messaging Service (SMS) to promote greater price transparency in the fisheries sector. Daily selling prices for fishers, collectors and processors for 10 landing sites on Lake Victoria were available through SMS at any time of day. The collaboration with MTN led directly to an alliance among MTN, Grameen Foundation USA, AED and USAID to expand mobile phone service to women in rural areas.
- Appraisal, design and supervision of over \$650 million World Bank loans to China for aquaculture development, CHINA, World Bank, 1989 to the present:
 - *Sustainable Coastal Resource Development Project (1998 to present)*: The project was designed to plan and assist in the implementation of efficient and sustainable use of all coastal resources. The stated objectives, which have been successfully implemented, are: (a) support the Government's commitment to sustainable development of China's coastal resources, (b) reduce pressure on coastal fishery resources and (c) help improve aquatic product quality. These objectives are being achieved through (a) the design and implementation of a coastal zone management (CZM) plans in selected areas of four coastal provinces; (b) investments in advanced hatchery technology and marine aquaculture that promote and reinforce sound CZM policies; (c) expansion and quality improvement of storage, processing and marketing facilities for aquatic products; (d) training of public and private sector staff in quality control procedures for aquatic products consistent with "Hazard Analysis at Critical Control Points" (HACCP); and (f) the application of HACCP standards to processing plants and markets upgraded by the project. A principal of AISD development was active in all stages of the design of the project and implementation of the project, headed the design, implementation, and supervision of the Aquatic Product Quality Improvement Component. This component has successfully financed the construction and rehabilitation of 21 processing facilities with an investment of US\$ 32.1 million. All of the plants are currently certified using the HACCP control process. The project targets the four provinces of Shandong, Liaoning, Fujian, and Jiangsu, and the total project investment is US\$200.0 million.

Aquaculture Growth in China

In 1988, there were approximately 800 scallop rafts, or chains, Qinhuangdao, Hebei Province area of the Bohai (Bo Sea). With private investment and a World Bank loan appraised and supervised by AISD Executive Vice President Andrew Kaelin, that number grew to approximately 92,000 chains operated by individual households.

- *Heilongjiang Agriculture Development Project (1997 to present)*. Cold water pond culture of adapted species of carp and other cold water species and the re-stocking of large lake resources. The project is currently being implemented with a planned investment of US\$ 70.6 million of which \$US 40.26 million has been invested to date with the resulting construction and rehabilitation of 470 hectares of ponds, and the re-stocking of a 12,000 hectare lake.
- *Song Liao Agriculture Development Project (1994-1999)*. Sustainable production of shrimp, scallops, river carp, including hatcheries and processing facilities. The project financed the development of low-lying mudflat wastelands (northern area containing no mangroves) for shrimp, shellfish, and river carp production. The project has concluded with the following results: 1,333 hectares of shrimp ponds were rehabilitated. A shellfish hatchery producing 200 million scallop spats was put into production, and the low impact, marine scallop production was increased by 8500 rafts or chains. 13,333 hectares of inter-tidal hard and short neck clam culture were seeded and are being harvested. Construction was accomplished on a 1600 square meter river crab hatchery, 134 hectares of river crab area was put into production using individual household contract farming. The total investment in the Aquaculture component was US\$ 20.63 million.
- *Guangdong Agriculture Development Project (1991-1999)*. Sustainable mariculture of shrimp, oyster, marine net cages, inland fresh water fish production with hatcheries and processing. A total investment of US\$ 230.38 million, of this amount US\$ 159.8 was used in the fisheries and aquaculture component, with the following accomplishments: (a) construction of 1.6966 million square meters of sea dikes, (b) 1,126 hectares of brackish water ponds and 1293 hectares of fresh water ponds and 208 ha of shrimp ponds (c) construction of 4 cold stores, (d) development of 440 hectares of oyster cultivation and (e) 8,000 marine net cages and 3000 fresh water net cages for fish cultivation. Twenty-eight fishing vessels were also constructed, 52 additional fishing vessels were originally planned, but due to the determined status of the fish stocks, the construction of these vessels were canceled and part of the funds were shifted to aquaculture production.
- *Henan Agriculture Development Project (completed 1998)*. Inland pond production of mixed carp species, developed individual household contract program
- *Hebei Agriculture Development Project (1989-1998)*. Coastal shrimp, introduction of scallop culture, fresh water fish production using individual household contract system. Pre-appraisal, appraisal and supervision over the life of the loan project of ten years. Over that period, the number of scallop chains in the Bohai (Bo Sea) grew from 800 to 92,000.
- *Fourth Rural Credit Project (completed 1997)*. Loan to the Agriculture Bank of China. Supervised disbursements for loans relating to fisheries and aquaculture.
- *Shandong Agriculture Development Project (completed 1996)*. Coastal mariculture (saltwater), including hatcheries, pumping facilities, and processing for large scale shrimp production.
- *Coastal land Development Project (completed 1995)*. Coastal mariculture (saltwater), including hatcheries, pumping facilities, and processing for large scale shrimp production

- Conducted an assessment of investment potential of the fisheries sector in Khabarovsk Krai and the Sea of Okhotsk and made recommendations to the Krai administration on developing trade links. Organized international delegation of Chinese investors and American commercial interests to investigate investment opportunities in Khabarovsk. (1998)
- For International Relief and Development (IRD) conducted an assessment of tsunami affected communities extending from Galle to Valaichenai (south of Trincomalee), aimed at identify opportunities for project assistance to support recovery of coastal communities and fishing industries. AISD met with representatives of local governments, community groups, relief organizations and the local fisheries industry, and identified a range of project investments that were presented to Government of Sri Lanka, USAID and other donors. AISD subsequently conducted a similar assessment and design in Banda Aceh, Indonesia.
- Provided expert advice to the Iraq Marshlands Restoration Project (IMRP), on hatching and rearing of a native species, *Barbus Sharpeyi*.
- Conducted an assessment of the feasibility of, and opportunities for using information technology for identity preservation and traceability to transform the marine aquarium trade in the Philippines.
- Developing a seafood traceability system for a commercial client.

AISD PRINCIPALS

Andrew J. Kaelin, Executive Vice President. Mr. Kaelin has 28 years of international development consulting and commercial agribusiness, aquaculture and coastal resources management experience. He has started up, owned, operated and advised private commercial agribusiness ventures and cooperatives in Africa, Asia, the former Soviet Union, and Latin America. His commercial and consulting experience extends all along the supply chain from primary production to value added products for end consumers. He has specialized product experience in shrimp, scallops, oysters, carp, tropical fruit and vegetables, and jojoba.

Mr. Kaelin's development consulting work includes, most recently, assessing opportunities for recovery of coastal areas in southern Sri Lanka and Indonesia after the tsunami. Previously, he developed and implemented a competitiveness strategy for Nile Perch from Lake Victoria under a USAID financed project, as a result of which the Government of Uganda made a national commitment to sustainable aquaculture development. Mr. Kaelin has provided consulting services to the World Bank, including appraisal and supervision of the Sustainable Coastal Zone Development Project in four provinces of China. He designed the Aquatic Product Quality Improvement Component for the introduction of HACCP standards and restructuring of existing seafood processing companies, and the introduction of new value added lines. He has appraised and supervised other aquaculture and seafood processing World Bank loans for agriculture development projects in China and Mexico.

Currently, Mr. Kaelin operates a commercial venture importing shrimp and scallops from China in partnership with Chinese processors and producers. His commercial experience includes serving as General Manager of the Maryland Waterman's Cooperative in Annapolis, Maryland, a 54-member fisherman's cooperative. He has served as Managing Director of a Panamanian seafood processing company, and prior to that started up and operated a Panamanian shrimp farm, with 300 hectares of

shrimp ponds in production, a shrimp hatchery, and seafood processing operation with a total capital investment of eleven million dollars.

Mr. Kaelin holds a Bachelor of Science in Marine Zoology from the University of Miami, a Masters in International Management from Thunderbird, and has completed graduate coursework in Development and Agriculture Economics at the University of Colorado. Mr. Kaelin speaks fluent Spanish and has working knowledge of Chinese. Mr. Kaelin is a member of the World Aquaculture Society. He has been a speaker at the annual China Fisheries and Seafood Exposition for the last 7 years, and the Global Shrimp Outlook in Singapore (2001), Indonesia (2002) and Mexico in 2003.

Cecilia Ciepiela, President. Ms. Ciepiela is a senior economic development specialist with over sixteen years of private and public sector international development experience, including seven years of project design and management experience at USAID, in both Washington and USAID/Moscow, with a specialization in enterprise development, competitiveness, local economic development strategies, and information and communications technologies (ICT). For USAID/Moscow, Ms. Ciepiela led the design, implementation, and oversight of over \$15 million for regional development initiatives in the Russian Federation, including activities in small business finance, land and real estate market development, investment promotion, public finance, health, civil society strengthening, and others. As Project Development Officer (PDO) for the Bureau for Europe and Eurasia (E&E, formerly ENI), Ms. Ciepiela served as lead Project Development Officer for a \$30 million White House-mandated assistance to the Federation of Bosnia and Hercegovina to strengthen the negotiated settlement and promote ethnic reconciliation between Bosnian Croats and Bosnian Muslims through participatory community development and reconstruction activities.

Following her tenure at USAID, Ms. Ciepiela served as Global Manager for CARANA Corporation's small and medium enterprise development practice, including an assignment leading a DOD-funded project to identify alternative economic development strategies in defense-based regions of East Kazakhstan. After leaving CARANA, Ms. Ciepiela assisted the International Rescue Committee (IRC) to improve institutional capability to respond to long term funding opportunities related to transition, post conflict, and community development, resulting in over \$20 million in new long term funding for the organization, including a vocational training project in Afghanistan, agribusiness in Kosovo, and psychosocial support in Uganda.

Ms. Ciepiela established AISDevelopment in 2003 as a small, woman-owned HUBzone company. At AISD, she manages company operations as well as a range of projects, including, most recently, Afghanistan poultry development, Jamaica microfinance, and post-tsunami coastal livelihoods recovery assessments in Banda Aceh and Sri Lanka. Past AISD assignments include delivering program support for a \$70 million community development activity in Iraq, design of a agriculture and enterprise competitiveness project in Albania, and assessment of traceability options for marine aquarium fish in the Philippines, as well as project design and proposal development services to for-profit and not-for-profit clients.

Ms. Ciepiela holds a Master of International Affairs degree from Columbia University's School of International and Public Affairs (SIPA), with a specialization in Latin American economic development, and a Bachelor of Arts in History from Williams College.