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Building a Foundation for International Trade...

Vietnam Urban Environmental Management Project

Project Overview

Colorado environmental businesses are discovering economic opportunity in Vietnam through the Vietnam Urban Environmental Management Exchange Project. The project initiates a long-term economic development strategy to help small environmental companies participate in international markets by building personal business relationships with key contacts in the region. During 2001-2002, a unique partnership between the University of Colorado Business Advancement Center and the Colorado Environmental Business Alliance matched state environmental technologies and expertise to Vietnam interests under a grant awarded by the

Council of State Governments (CSG) State Environmental Initiative program.

The 15-month project has involved academia, government and business participants from Colorado, Malaysia and Vietnam in a program to explore strategies for planning and infrastructure development that prevent or reduce future pollution and environmental consequences of urban growth and industrial development. Partner organizations focused on two Traditional Production Villages near Hanoi that produce wood furniture and wood carvings. The greatest source of pollution is



solvents applied in paints and finishes on the traditional wood pieces. Colorado small businesses with technical expertise in areas of air quality, energy, solid waste, water, community sustainability and wood furniture cleaner production have intimately participated in the project, developing long term relationships, joint ventures and strategic partners for future business opportunities.

Project Accomplishments

Based on the environmental conditions in the wood handicraft villages, the project team devised short and long term strategies utilizing expertise from Colorado, Malaysia and Vietnam. The project directly tapped partner expertise to begin implementing some priority short-term strategies. All implementation was completed with the involvement of a Vietnam partner as well as local villagers to ensure continuation after the project team departed.

The implementation included:

Gathering data to quantify the extent of environmental contamination in paint spray operations, village water and air quality, and related impacts on worker and family health. This data will be

used to educate villagers and policy makers on the extent of the problem and to gain local support and commitment to extend cleaner production practices. It will also be useful to measure future progress;

Removing sawdust particles from the air through a collection system and training villagers to use sawdust and wood waste in a composting system to create a useful agricultural resource. The composting technology was selected for near term implementation over alternative uses of wood waste since currently unknown level of contaminants in this waste would preclude safe use for other applications; and

Addressing the most hazardous environmental condition from furniture production was com-

pleted by retrofitting two paint spray booths with adequate ventilation and filtering systems, training workers on proper use of paint spray equipment, demonstrating use of respirators and providing instruction on safe use and disposal of solvent materials. In addition, this implementation included training staff of the Vietnam Productivity Centre in these methods, so that they could offer this training to others in other villages. There is currently no local supplier of non-toxic finishes, however, the team has established relationships with vendors in the U.S. and Asia who are interested in moving into this market. In addition, the team provided design specifications for exhaust and air filtration systems to be used in planned industrial parks for this industry.

Furthermore, the project exposed



Appropriate technologies and best practices support sustainability while honoring the social and cultural fabric of Vietnam.

“the project exposed Vietnam partners to best practices and new technologies appropriate to their larger urban environmental challenges.”

...continued from page 1, Project Accomplishments

Vietnam partners to best practices and new technologies appropriate to their larger urban environmental challenges. Since partners represent leaders in Vietnam industrial and environmental organizations, their knowledge is expected to impact policy and practice into the future.

For example:

Partners were introduced to electric and hybrid-electric vehicle technology as one possible solution to the air quality problems from vehicle exhaust in Hanoi City;

Sustainable development concepts were presented both formally, and through a visit to a community in Golden, Colorado, based on sustainable concepts. Further, sustainable concepts were used throughout work group planning activities specific to identifying appropriate short and long term strategies to address problems and opportunities at the village level;

Clean energy technologies are important to Vietnam in being able to meet increased energy required for industrial development, while maintaining and improving air quality. Biomass-to-energy and biomass-to-ethanol technologies are appropriate to utilize village wood waste as well as Vietnam's agricultural and green waste. In addition, wind technology has been identified in Vietnam's Re-

newable Energy Plan as the most effective way to bring electricity to rural mountainous communities not connected to the grid. The partners were exposed to the most current research and application of these technologies through formal presentations by Colorado companies as well as on-site visits to the National Renewable Energy Laboratory and to working biomass production facilities;

Partners were encouraged to advocate the addition of toxic chemicals prevalent in wood finishes to a list of controlled or prohibited imports, and to require labeling in the Vietnamese language on containers of hazardous materials imported into the country;

Many areas of North Vietnam are experiencing growth and change involving new construction of commercial and residential buildings. Partners were exposed to the idea of using natural and green building materials, some of which could be manufactured in Vietnam from sawdust, rice hulls and other fibers; and

Vietnam partners were introduced to the environmental concerns and experience of Malaysian partners who are active in ASEAN. They have heard presentations from Malaysian partners on environmental policy and on lotus pond preservation. A Vietnam project partner has already

tapped into Malaysian expertise in hazardous waste incineration.

The project team identified many aspects of pollution prevention and environmental protection in the production villages that will require additional funding. Pursuit of financing to support future activities is of interest to the project partners. Interest in continuing established partnerships has been verified through a signed Memorandum of Agreement between the Hanoi Institute for Socio-Economic Development Studies (HISEDs) and the Colorado Environmental Business Alliance (CEBA). In addition, a Colorado company has made a long-term commitment to trade in Vietnam by opening a Hanoi office.

The most important outcome of the project is the personal relationships of individuals involved from three countries. With this comes the knowledge that these trusted relationships provide ongoing access to environmental expertise and trade contacts in partner organizations and throughout their wide networks. CEBA will collaborate with its Vietnam partners to gain entrée to business opportunities and contacts for Colorado businesses. In return, Vietnam partners have trusted Colorado and Malaysian partners for access to urban environmental technologies, policies, knowledge and suppliers.



Traditional Production village, Van Ha, meaning Cloud River. Carving and woodworking has been a tradition here for thousands of years.

“The project initiative was timely and has contributed positively to capacity building and helped to implement demonstration projects which will serve as springboards for future efforts to disseminate cleaner production strategies more effectively in the region. Malaysia benefited substantially from the Malaysia-Colorado Cleaner Production Policy and Technology Exchange program that lasted from 1998-1999. The “smart partnership” created allowed groups to learn first-hand from plant managers and others how cleaner production practices and technologies improve overall environmental management by cutting down on operating costs and energy consumption.”

~ Ms. Wan Portia Hamzah, Institute for Strategic and International Studies

“The implementation in the villages was valuable and we hope to disseminate more broadly in the future. We hope the exposure in Colorado can be used as a good reference for policy and practice in Vietnam. This project is a good example to set the stage for a united effort in cleaner production in Hanoi.”

~ Dr. Pham Khanh Toan
Institute of Energy, Ministry of Industry

“This project sets a platform for each country to share its mistakes and success stories. The strength, trust, honour and integrity evolving between project partners will be invaluable towards trade relationships.”

~ Ms. Thayanithi Kulenthiran
Greenfields Consulting

"The seminars between experts and exchange seminar with villagers and other Vietnamese partners that took place were very successful. The villagers are pleased that even foreign organizations have concern to their matters. Vietnamese partners had the opportunity to go to Colorado and learn many good things there. We understand more of the importance of fighting against environmental pollutions. We learned how different people can use renewable energy in the USA. All that we heard and saw will remain in our minds for future action in Vietnam... This project strengthens the relationship between Vietnam and the United States as well as Malaysia. The people whom we met are so kind and open to us."

~ Dr. Vu Quoc Binh
HISEDSE

"Because of my involvement with CEBA and the Vietnamese project I have been able to make additional contacts which have potential for business in the Hanoi area."

~ Lester R. Kuhlman, Ph.D
Resource Recovery Systems

"The area of wastewater and water are significant throughout the country. It is my hope we can continue what this Council of State Government funded project started with the joint efforts of CEBA and our Malaysian counterparts."

~ Mr. Timothy R. McCune
ZMS, Incorporated



"The composting process was one appropriate method of recovering the natural resources for agricultural countries like Vietnam"

~Dr. Dang, CEETIA

"Thanks for sharing the program with me, it looks good..."

~ Ms. Phung Van, US Asia Environmental Partnership, Vietnam

"In fact, the pilot program has been carried out successfully that helps to improve the quality of life and environment protection in implementing communities. Moreover, the cooperation program, in which the Vietnamese officials and experts could have a chance to visit the US to learn and observe different clean production models, has resulted in positive impacts on Vietnam's community development. It was a good chance for Vietnamese and US professionals and practitioners in the field of environment and community development to share and exchange ideas and experiences."

~ Ms. Nguyen Thi Bich Hang
Vietnam Productivity Center

"I was surprised by both the breadth of the opportunities to make a difference in the Vietnamese villages, and the strength of the people's support to make it happen. We saw the conflicts between an ageless agrarian lifestyle and the modern demands of commercialization and industrialization. It will take tremendous will and a lot of technical savvy, to avoid destroying those prospects by despoiling the air, the water, and the land."

~ Mr. Tom Potter
All American Energy

"Malaysia has always believed in 'Prosper my neighbour' for mutual benefit. We also have great confidence in indigenous capabilities i.e. - Malaysia Boleh. The Colorado/Vietnam/Malaysia project strongly reflects these two principles as Malaysia is given the opportunity to contribute towards the betterment of the environment of our ASEAN neighbour, Vietnam. Malaysia is also able to offer an alternative source of materials, equipment, etc or even technology. In return, Malaysia builds up rapport, acquires greater know-how and experience as well as receives higher intra-ASEAN trade. It is a project which meets the political, social and economic goals of all participants."

~ Ms. Chin Lye Ha
Federation of Malaysian Manufacturers



Best practices were demonstrated for water based paints and paint spray techniques. Application strategies were developed to increase worker health and safety.

"AMB Environmental, Inc.'s involvement in the Vietnam village technology transfer project was personally rewarding as well as instrumental in the decision to expand our business. After seeing the great need for modern technology, pollution prevention and basic health, safety and environmental training AMB saw the opportunity to establish an office in Vietnam. AMB has already begun the process of establishing a presence in Hanoi, and the contacts made through this project have been invaluable."

~ Mr. Mark Boyd
AMB Environmental

"The Vietnam project brought together some very bright minds and fertile resources. We exchanged innovative approaches, and established ongoing relationships which will provide cutting-edge, sustainable technologies from Colorado to Vietnam. The hope is that Vietnam, currently at a technological crossroads, can learn from our mistakes as well as our successes, and become a world leader in environmentally-sensible production systems. I'm proud to be part of the team."

~ Mr. David Wann
Sustainable Futures Society

"The Project should be continued to improve the environmental quality for Lien Ha and Van Ha communes. The air quality was heavily polluted by the production process. In order to mitigate the pollution, future focus includes: replacing paint dust filter media by using coconut's skin; changing the painting instruments; and replacing currently used solvent by other non-toxic solvents. For water quality, it is a good idea to recover natural pond systems in the villages. To reduce the risks from water diseases, several demonstrations on lotus/water hyacinth ponds shall be researched. The project will continue to explore opportunities to integrate sustainable community planning methodologies to the existing village structure."

~ Prof. Pham Ngoc Dang, CEETIA



Air quality solutions such as electric and hybrid-electric vehicle technologies were introduced to project partners.



“This project has set the stage for a united effort on cleaner production in Hanoi especially for small scale enterprises and traditional production villages.”

We're on the Web!
www.ceha.org

U.S. Partners

CO Office of Economic Development/International Trade

U.S. Environmental Protection Agency Region VIII

Rocky Mountain Institute

Sustainable Futures Society

Colorado Renewable Energy Society

World Trade Center Denver

The U.S. Dept. of Commerce, Export Assistance Center
2MS, Inc.

Colorado Department of Public Health and Environment

Denver Mayor's Office of Economic Development/
International Trade

University of Denver, Vice President for Global Development

CH2M HILL

Vietnamese Partners

Hanoi Institute for Socio-Economic Development Studies

Center for Environmental Engineering of Towns and Industrial Areas

Center for Environment Research, Education and Development, Vietnam National University

Vietnam Productivity Centre

Center for Research, Transfer of Appropriate Technology of Medium and Small Scale

Institute of Energy, Ministry of Industry

Malaysian Partners

Greenfields Consulting

Institute for Strategic and International Studies, Malaysia

Federation of Malaysian Manufacturers

SIRIM Environmental & Energy Technology Centre

Penang Skills Development Center

Environmental Management and Research Association, Malaysia, Cleaner Production Interest Group

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