History of The Monteverde Institute (10/2015)
By Leslie J. Burlingame and Other Friends of MVI

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The Monteverde Institute (MVI), a non-profit educational organization, was founded in 1986 in the mountainous northwestern Costa Rican community of Monteverde. In partnership with universities and schools primarily from the United States, MVI has provided courses and workshops in tropical and conservation biology, conservation, sustainability, agroecology, community public health, globalization, ecotourism, social justice, architecture and landscape architecture, sustainable development planning, education, journalism, and Spanish language and Costa Rican culture. MVI also has facilitated research and service learning and offered community programs that benefit the local area and promote sustainable development.

Origins and Development

According to the late John Trostle, one of the founders of MVI, the Institute's oldest roots lie in biology classes at the Friend's School from the 1950s, a growing "love of nature" among those Quaker families who welcomed biological researchers, and the visits of graduate tropical biology courses run by the Organization for Tropical Studies (OTS) (Trostle, 1990-91). Starting in the late 1960s, an increasing number of biologists conducted extensive research on aspects of the area's high biodiversity.

One Monteverde researcher, Nalini Nadkarni, who had taken an OTS course and who was teaching at the University of California, Santa Barbara, was

interested in bringing an undergraduate course and team teaching it with her husband, biologist Jack Longino. They talked with John Trostle, who had spent twenty years as Associate Director of the Council on International Educational Exchange (CIEE, then based in New York) before retiring to Monteverde. He had worked with the faculty (Bill Allaway and Henry Weaver) in charge of the University of California Education Abroad Program (UCEAP); in 1986, UCEAP asked for courses in tropical biology and agroecology. Trostle, Nadkarni, Longino, and Barbara Haber became involved in discussions with Monteverde residents, some of whom were concerned about the possible negative impacts of a group of U.S. undergraduates living and studying in the community. Trostle said "the community had begun to realize that while tourism cannot be controlled, it is sometimes possible to guide components of it in creative educational ways. We might guide college groups into longer-term high quality educational programs, and by so doing, develop new jobs and careers for area residents, as well as create educational and cultural activities for the zone" (Trostle, 1990-91).

In 1986, twenty-eight residents of Monteverde, most of whom were originally from the US, served as founding members of the non-profit "Asociación Instituto de Monteverde" and drew up a constitution listing the aims of MVI which included: "A) promote education, culture, and scientific investigation in the areas of biology and agriculture; B) organize musical and dramatic presentations, as well as congresses, symposia, conferences, courses, and talks, on cultural, educational, or scientific themes" (Constitution of the Monteverde Institute, 1986). MVI began to broaden its focus in 1990, first developing a Mission statement that reflected Quaker values: "The Monteverde Institute is a non-profit association dedicated to peace, justice, knowledge, and the vision of a sustainable future...." In 1993, as the Monteverde area experienced rapid social, economic, and demographic change due to the growth of tourism and as global concerns shifted to “Sustainable development,” MVI broadened its objectives to stress “Education for a Sustainable Future” (Bylaws, 1993).

As MVI approached its 20th Anniversary, the Board and other MVI supporters became concerned about the scope of the mission and a growing financial debt burden from the construction of its new building and library

addition and from land acquisition. Debt went up while income from courses decreased, due partly to the impact of the 9/11 attacks; the Iraqi war; and increased competition from other study abroad programs. Beginning in 2006, MVI's Director, working closely with the Board, instituted drastic reductions in expenses through major personnel cuts, sale or divestment of some properties, and expanded efforts to increase income and find new partnerships for offering courses on a regular basis. The Director, Board, and General Assembly evaluated scenarios (including grim ones) for MVI's future and, in 2007, launched a close evaluation of MVI's vision and mission. The leaner, more focused MVI paid off its debts by 2008 and successfully began expansion of its financial base (with more courses and students) and extension of its community outreach (see MVI Annual Reports since 2005).

A much stronger, yet still financially prudent, MVI celebrated its 25th Anniversary in 2011, offering a vision of "a sustainable community for a sustainable world." MVI emphasized a mission "to advance sustainable living at the local and global level through place-based education, applied research, and collaborative community programs" (www.montevede-institute.org). The Anniversary began with a Founders' Circle Celebration. The following months saw a four day celebration of the Arts, a Peace Day Celebration (jointly with the University of Peace), a Home Stay Celebration with the local families, a Library Outreach Program, and a celebration mounted by current staff to honor past staff members (Ortiz, 2011, 2012).

MVI Director Nat Scrimshaw helped establish the Alliance for the Monteverde Institute (AMVI) in 1993 in Vermont to promote and support the Institute and other Monteverde organizations. In 1994, the IRS approved AMVI as a 501(c)3 non-profit organization that could receive tax-deductible contributions. The organization became dormant in 2005, but interest from a new Director and friends of MVI led to AMVI's reactivation in 2009. One of AMVI's Board members, Bob Howe, started an illustrated electronic Newsletter with information about the latest developments at MVI; he has sent Newsletters regularly to Alumni and supporters (Howe; current and back issues are available on MVI's website).

Academic Programs

The first quarter-long University of California Education Abroad Program (UCEAP) began at MVI in 1987; since 1992, two quarter-long UCEAP programs have been offered every year. UCEAP developed a format used for other semester/quarter long biology programs that receive college credit in the USA. Tropical biology is the central focus of the program, coordinated for more than twenty years by resident biologist Frank Joyce. The course introduces students to tropical diversity and community ecology through lectures by Joyce, MVI faculty, and resident or visiting researchers, and through field projects, which take place primarily in the Monteverde Zone but include field trips to contrasting ecosystems in the country. By 1995, Joyce made conservation biology (theories and practices) an essential part of the program to reflect the growing international importance of this new field (F. Joyce, pers. comm.). In another component of the program, local biologists and farmers introduce students to agroecology, tropical farming, land-use practices, sustainable agriculture, conservation practices, and, more recently, ecotourism. Study of Spanish language and local culture, taught by degreed faculty and local native Spanish-speaking instructors, and homestays with local Costa Rican families are included in the programs. The final component is an independent study project based on fieldwork. At the completion of this project, each student makes an oral presentation in a session open to the community and leaves a copy of his or her paper in MVI's library (UCEAP, 2015). UCEAP's program has been adapted for many customized shorter courses at MVI (generally 1-3 weeks).

In keeping with MVI's broader mission, MVI launched a 9-10 week intensive summer course, "Sustainable Futures," in 1995 for upper level undergraduate and graduate students in architecture, landscape architecture and planning with SUNY-Buffalo and the University of Maryland (subsequently joined by other partner universities). Through “service learning” students have developed their knowledge and skills by working (gratis) on planning and designing projects that help local communities and institutions (see Community Programs section below). Projects have also included large scale “scenario planning," development plotting and tracking in the area since 1950, and alternative scenarios for the future (L. Schneekloth, pers. comm.). The Enlace

Verde project employed GIS mapping and worked to link privately held forests outside of the reserves through different conservation strategies (most properties owned or formerly owned by MVI were protected by conservation easements as part of the larger Enlace Verde project). SF programs have also provided designs for MVI's main building and additions, outdoor classrooms, and campus landscaping. By 2014, the SF program was "shifting to a research, single-subject focus. The theme is water: storm water management and catchment, gray water treatment, community water storage and delivery" (MVI, General Assembly Reports, 2014).

Other links to MVI's mission and provision of benefits to local communities have come from several new "long" courses. Beginning in 2001, a partnership with the University of South Florida produced an annual field school experience on "Globalization and Community Health" (course title and duration have varied). Students were trained in quantitative and qualitative research techniques, experimental design, and data analysis as they studied a number of health related issues in the Monteverde area, including: women and adolescent access to healthcare from prenatal through birth services, sexually transmitted diseases, obesity, nutrition and food security, tobacco use in adolescents, occupational dangers for agricultural workers, and water borne diseases. Students applied their knowledge each year in surrounding small communities, assisting with free basic health screening, including eye tests, blood glucose checks, and blood pressure readings. In keeping with their concern over water borne illnesses, in 2014 students designed and built a new biogarden gray water treatment system for MVI that can serve as a model for others; an intern enhanced its educational value with interpretative signs (MVI, General Assembly Reports, 2014; AMVI Newsletter, 6-21, 2014).

A new spring semester-long interdisciplinary place-based program for undergraduates, "Globalization, Development, and Environment" (course title has varied) began Spring 2009 as a joint program between Mount Holyoke and Goucher Colleges. The program studies the rapid changes in the Monteverde area, where tourism has been replacing traditional agriculture, as a way to understand the broader complexity of globalization and changing threats to sustainability in Costa Rica and beyond. Students spend most of their time

studying and doing applied research in the Monteverde area where they live with local families. They also go on field trips and travel to several locations elsewhere in Costa Rica and Nicaragua. Students take four courses: Development and Social Change in Costa Rica and Spanish Language and Culture plus two of the following: Environmental Sustainability, Human Health and Development in the Tropics, or Field Methods in Tropical Ecology. They must complete an independent research project as part of one or more of their courses and give a public presentation at the end of the semester. Students have been very enthusiastic about their experiences ("My semester in Monteverde changed my life and I'll never forget it or any of the people I shared it with. ... I'd recommend this program for anyone who values community, loves hands-on-learning, and cares about the world we live in"); several students have stayed on as volunteers or interns (www.mtholyoke.edu/global/study_abroad/mhc_costarica; see also MVI homepage link to its YouTube site, Fig Tree Top Report, for June 1, 2015). The Living Routes Program: Tropical Ecology, Development, and Social Justice, offered both semesters from 2011-2013, focused on the effects of national and international policies on local sustainability, conservation, and social justice.

MVI provided a total of more than 525 courses (long and short) for about 9625 students from its founding to the end of 2015 (F. Lindau, E. Coghi, D. Hamilton, pers. comm.). Most years had a mixture of longer and shorter courses totaling 20 to 25 courses per year. However, for 2007 through 2009, the total number of courses declined to about 17 per year for reasons noted earlier. Hard recruiting work and improvements at MVI plus positive global economic and political developments produced dramatic increases in the number of courses and students starting in 2010; also, as drug related violence increased in Mexico, more international students chose peaceful Costa Rica, which has become the Latin American country of choice for US study abroad students (MVI Calendario cursos, through 2014; Institute of International Education, 2014). By 2012, there were 29 courses and a total student enrollment about twice that of 2007 and more student course days (more students in long courses staying more days). The two UCEAP courses per year have consistently had the largest number of students; they draw students from all the University of California campuses. MVI courses

include semester/quarter programs for undergraduate and graduate credit and shorter university level courses for students and for faculty from Costa Rica, the U.S., Canada, and Europe on a wide variety of topics. Internships for college credit have been available for many years, but internship opportunities have expanded considerably since 2013 (see MVI website listing). In 2014, MVI developed detailed policies, protocols, and a new student handbook to deal with possible emergencies of all sorts, including assaults on a student. This was in response to an assault the previous year; MVI worked with Costa Rican lawyers and its major academic partners in the development of these policies (see Annual Report 2014 and MVI website under Protocols).

MVI has also run shorter programs for high schools, conservation groups, and service based groups such as the Fox Maple School of Traditional Building. In 2007, MVI added intensive freestanding Spanish courses that include some local environmental and community development components; students of any age can sign up for one or more weeks. MVI has collaborated with partner institutions to offer customized services ranging from providing all instruction by its well-trained faculty, field trips, logistics, housing, and meals to less comprehensive arrangements. Monteverde and the areas around it provide many resources, study opportunities, and cultural exchanges for students that contribute to the richness of place-based educational experiences (see Nadkarni and Wheelright 2000, L. Guindon, ed. 2001, Burlingame 2000 and 2014).

Facilities and Campus

During its first decade, the Institute occupied a series of small offices. In 1997, a new headquarters embodying principles of sustainable design was built on land purchased adjacent to the dairy plant in the center of Monteverde. Architectural and landscape designs came from Black River Design of Vermont, Sustainable Futures courses of 1995 and 1996, and local architect Olman Quesada, all working with MVI's Board and staff. The building was designed as a "model of sustainable building practices, serving as a teaching tool on the topic" (MVI, Annual Report 1997). Very little wood was employed in the building's construction; no wood from endangered species was used (as was common in other construction in the area). Instead, builders used a mix of concrete and recycled paper (Ricolit) along with concrete blocks and poured concrete and steel

pearling as framing; the roof was galvanized and painted sheet metal (Shannon 2007). Building design maximized: natural light during the day, passive solar energy for heating and drying, and natural ventilation for cooling; energy conservation has been a priority. Plans were to eliminate water run-off from the property: rainwater from the roof was to be collected in cisterns, used to flush toilets, and captured in a modern septic system; grey water was cleaned in a reedbed/biogarden system (these features have not always worked as planned; for example, the biogarden has needed reconstruction several times, most recently in 2014; an intern then added interpretative signs to explain how the biogarden functions). Students in the SF and several other courses cooperated to design and build a new demonstration water conservation project, an outside dry composting toilet, in 2015.

In 2002, a new wing was added to the main building; its central focus is the John and Doris Campbell Library with its extensive collection of books, reprints, and student papers from MVI courses for use by students, local and visiting researchers, and the broader community. The library also has a computer lab with a dozen computers, Internet access (which has been provided in various ways), high-speed wireless connections for the whole building, a variety of printers, and other electronic equipment. MVI's own website (www.monteverde-institute.org) has undergone numerous revisions over the years to reflect changes at the Institute as well as in the Internet. The informative website includes links to MVI's Newsletters, Blogs, Facebook page, YouTube videos (Fig Tree Top Reports), and a Twitter account. The MVI building also has classrooms (of various sizes), offices; a laboratory (expanded and newly equipped in 2014); an auditorium; a new roofed back porch eating, study, and meeting area; a weather station; and carefully landscaped surroundings that feature native plants. A small building behind the Library wing was constructed in 2002 by the Fox Maple School of Traditional Building from Maine using 18th century timber framing techniques (and harvested non-native trees from the MVI property). This building was recently converted from a storehouse to a studio space for the Sustainable Futures program and/or additional classroom space. It was tied in more with the main building in 2015 via a new patio entry and stonework matching the two outside staircases.

As the number of students, courses, and MVI personnel increased, MVI needed more classrooms and office space. Students from the Sustainable Futures (SF) Program developed concept designs in 2011 for a new wing and landscaping on the west side of the main building; the new wing was to be the most environmentally friendly building in Monteverde. This project was put on hold in January 2012, pending completion of the leadership transition and the raising of additional funds to pay for the building. Construction of a less expensive and smaller new outside timber-framed, multi-functional, glass-enclosed classroom, laid stone retaining wall, and entrance steps went ahead in the spring and summer of 2012 as a collaborative project among local artisans and volunteers, the SF program, the Mt. Holyoke/Goucher Program, and the Living Routes Program. Timber for the building came from MVI's non-native trees; one wall was made from recycled glass bottles (see Newsletter of 2/2013 and MVI's website and Facebook page for photos of the new classroom). This striking new outdoor classroom took some pressure off the immediate need for classrooms and has been very popular for various kinds of classes, co-curricular activities, and meetings. In 2015, SF analyzed needs for more space and began designing an addition off the back of the main building and on the east side of the campus.

Gifts of land, a house and other buildings by a local family (the Cressons) totaling 16 ha and the purchase (in 2000, with substantial aid from the late Rachel and Dwight Crandell) of a 14 ha reserve with primary and secondary forest and trails above the main building enlarged the campus. To retire part of MVI's debt, 7 ha of this land was sold in 2009 to the Costa Rican Conservation Foundation (Fundación Conservacionista Costarricense or FCC), which guaranteed its protection through a reciprocal conservation easement between the two organizations; the sale left MVI with a campus of 24 ha (D. Hamilton pers. comm.). In 2011, MVI and FCC began joint management of the newly created 14 ha Dwight and Rachel Crandell Memorial Reserve above MVI's campus. This Reserve has been the site of research projects, for example one monitoring bats and another, that started in 2014, to monitor survival rates of Neotropical migrant landbirds (D. Hamilton, pers. comm.). The Crandell Reserve, in turn, borders the 62,000 ha of privately protected forest reserves known as the Monteverde Reserve Complex. The conservation corridor that comes from the

protected land above MVI continues below it with the Monteverde Conservation League's Bajo del Tigre reserve (Director's Office, Monteverde Cloud Forest Preserve, pers. comm. 2014).

In 2013, students and volunteers developed new demonstration teaching gardens around this classroom, including a vegetable and herb garden (used by MVI's kitchen), a medicinal plant garden, keyhole gardens (designed for dry season weather), rain gardens (to absorb rain runoff from the Fox Maple roof), a greenhouse for raising native plants, and a native tree nursery producing seedlings for reforestation (more than 3000 in 2014; D. Hamilton pers. comm.). Native plants and tree saplings are used on MVI's campus and donated to local people interested in planting them. The gardens are also used for experiments with different sustainable agricultural techniques (including the elimination of invasive species) and provide educational opportunities for MVI students and staff and for local communities. In 2015, students constructed demonstration table gardens that are smaller, simpler, and cheaper than keyhole gardens but still at waist height and better for people with small yards. By 2014, MVI's gardens served as models for gardens in several community locations (AMVI Newsletter, 8/2013, 6/2014, 12/2014; garden how-to manuals are posted on: monteverde-institute-blog.org). The main entrance steps up from the road were rebuilt in 2014; beds of native plants flank them. In addition, volunteers have tagged trees behind the main MVI building as a first step to establishing an arboretum and calculating carbon dioxide sequestration rates in secondary forests (D. Hamilton, pers. comm.).

Sustainable construction has been joined by sustainable practice at MVI (detailed on website under "Our Commitment to Sustainability"). Food scraps and yard waste have been composted on site; paper is reused as much as possible before recycling. MVI has played an active role in developing community-wide programs to deal with recycling and solid waste disposal. There had been sporadic efforts at recycling by area hotels and the Monteverde Cloud Forest Preserve; most garbage was buried on site. In 2010, MVI joined with other local groups and the local government to create a commission (COMIRES) charged with developing plans to deal with the area's solid waste to comply with a nation-wide 2009 law. MVI provided technical and logistical

support to COMIRES. The local government now runs regular garbage pick-ups, has built a large recycling collection center and some mini ones, and involved volunteers in monthly recycling pick-ups. MVI and other local non-profits and businesses all have recycling receptacles on site. Recently, outside evaluators studied MVI's carbon footprint and found it to be "impressively small" (MVI website). In 2015, several MVI employees took part in workshops to learn how to make MVI carbon neutral, and SF students made campus measurements to determine MVI's carbon footprint (D. Hamilton, pers. comm.). MVI has also worked with homestay host families to help them improve energy efficiency in their homes (and save money) and to promote recycling and composting.

MVI's library houses more than 6000 physical items, including many article reprints; MVI's Library Coordinator has been entering paper records for these items into an Online Library Catalogue. She began entering records for books and articles held at the Monteverde Cloud Forest Preserve in 2012 and hopes to add holdings from other local institutions to produce a regional library catalogue (M. Leitón, pers. comm.). In 2007, a visiting librarian from the University of Vermont began to implement a new vision of the Library as the resource center for the area (Kutner 2012). She designed a new library page on the MVI website with links to search engines such as *Google Scholar*, databases and bibliographies, the growing number of public access electronic journals (including the *Directory of Open Access Journals*), and Monteverde-based research. Several US universities have been supporting work on the digital library projects that focus on community health, sustainable community development, and tropical ecology research primarily conducted by students in MVI and Monteverde's CIEE (Council on International Education Exchange) courses (L. Kutner, pers. comm.). The full text of these digitized research papers is searchable online. Study abroad students at MVI also have password-protected access to all the journals subscribed to by their home college/university library. "As the MVI Library's digital presence continues to grow, the important supporting role of the library for researchers in the area and beyond is becoming more widely known, and, most importantly, there is steady increased usage of the library's varied and growing resources" (L. Kutner, pers. comm.; see her 2010 article and July 2015 one in the AMVI Newsletter). In 2015, MVI held a

celebration for the Internet launch of the English and newly translated Spanish versions of *Monteverde: Ecology and Conservation of a Tropical Cloud Forest* (edited by Nadkarni and Wheelwright 2000 with chapter updates from 2014). This work, the major source on all the scientific (and some social science) research done in the region, is linked and accessible from the library's page on MVI's website.

Students in MVI courses lived and had classes in Monteverde Cloud Forest Preserve's main building and in local pensións and hotels until 1991, when some longer courses moved to the Biological Station, built by Canadian entomologist Monty Woods near Monteverde. The building contains sleeping and dining facilities, laboratory and computer space; close to the building is a demonstration native plant garden and access to primary and secondary forest. In 2002, the Institute entered a long-term purchase arrangement for the field station at the Bellbird Conservation Center and was given the 27 hectares of land surrounding it in the lower and drier area of Los Llanos. Although MVI ended its efforts to buy the field station in 2006 as part of cost cutting measures, the field station is still used for students in some shorter courses. MVI also continues to arrange homestays from a pool of about 150 local families during portions of courses (C. Rocha, pers. comm.). Students have been very enthusiastic about their homestay experiences and many think they learned as much from the homestay as from their courses. Homestays also provide a significant income base for community members.

Applied Research

From the beginning, MVI was interested in fostering, facilitating, and applying research in the area. MVI has been an active member of the Monteverde Research Advisory Commission (CAIM), "a multi-institutional entity organized to address local research-related issues" (MVI website). Research done by MVI's international students and faculty, working with MVI staff and resident and visiting resource people, continues to be made available to other researchers and the community through publicized open presentations of research findings and the collection of research papers in the library. MVI has also organized and sponsored many lectures, seminars, and workshops for students and the public (see, for example, the collage of posters for different

events in 2014 on MVI's Facebook page from March 28, 2015). Following the 1993 decision to focus MVI's mission on "Education for a Sustainable Future," the Institute has made a concerted effort to promote more applied research that addresses community needs and concerns, launching an Applied Research and Community Development Program. This broad program was replaced by more focused ones linked to academic courses, beginning in 2008 with the Integrated Water Resources Program (IWRP). IWRP has tied applied research to community involvement with stakeholders and builds on long concerns in the Monteverde area over sustainable and non-sustainable use of water resources and MVI's history of work in public health and planning. The program also has components tied to education and community outreach, particularly through its Adopt-a-Stream Program (influenced by the long-standing program run by the University of Georgia in the US and elsewhere in Costa Rica). Adopt-a-Stream supervises stream monitoring data collection and annual reports by students from the three main high schools (colegios). Working in three watersheds, students have found significant pollution problems in certain lower elevations (J. Welch, pers. comm.). Interns have also been very active in this Program.

An additional applied research program, "The Impact of Economic Change on Food Habits and Nutritional Health in Monteverde, Costa Rica: Mixing Agriculture and Tourism," began in 2008 with funding from the US National Science Foundation and collaboration from the University of South Florida. The project compared food security and health issues (such as diabetes, hypertension, and obesity) in two different communities using a total of 200 families. One community is involved in tourism and has an active commercial center (the Sta. Elena area); the other community (San Luis), was primarily agricultural but in the last 10 years has developed a mixed economy with some families involved in tourism. Preliminary data analysis suggests that as families increased their involvement in tourism, food insecurity and health problems increased. San Luis families that grew their own food 10 years ago no longer do when they are employed in tourism. They have less free time than in agricultural households, are exposed to more junk food, have less healthy food to eat, and are developing the health problems associated with the diet in developed countries (J. Peña, pers. comm.). In response to these finding, in 2012,

MVI decided to promote better nutrition through demonstration gardens and a "Monteverde in Motion" program to encourage more physical exercise.

Another applied research and conservation initiative is the Three-wattled Bellbird Biological Corridor which aims to connect the Monteverde Reserve Complex through four watersheds and 11 life zones down the Pacific slope to the Gulf of Nicoya. Biological corridors to protect migrating species and promote genetic diversity have been a priority in conservation biology for some time and in Costa Rica since the early 1990s. Individual scientists and conservation organizations in the Monteverde Zone began researching altitudinal migrations in nearby areas of the Pacific slope starting in the mid-1990s and reforesting sections with native species of trees, especially trees producing food essential for such altitudinal migrants as the Three-wattled Bellbird and the Resplendent Quetzal and for neo-tropical migrants. Several of these organizations purchased Pacific slope land adjacent to or near protected forests of the Monteverde Reserve Complex and reforested degraded land in the area. In 2007, a local Council formed to move forward on making the corridor a reality. The seven founding members of the Three-Wattled Bellbird Biological Corridor were the main local conservation organizations: MVI, The Costa Rican Conservation Foundation, the Monteverde Conservation League, the Monteverde Cloud Forest Preserve-Tropical Science Center, the Santa Elena Reserve, the University of Georgia Costa Rica (in San Luis), and the Costa Rican Arenal-Tempisque Conservation Area (see Burlingame 2000 and 2014 for more information on these organization). In 2009, these groups agreed to pay for a part-time Coordinator for the Project, and MVI provided office space for this person. With funding from the GEF-Small Grants Program, they elaborated a Strategic Plan with a mission to reestablish and maintain: biological connectivity, conservation of natural resources, and the well being of local communities (Corredor Biológico Pájaro Campana, Plan Estratégico 2011-2016). Implementation of the Plan has been funded by a grant from the UNDP Small Grants Program. By 2013, the Project had created a series of maps, using satellite images and GIS, of the physical, biological, and land-use features of the proposed corridor (R. Chinchilla, pers. comm.). They monitored bird populations along transects in the corridor and water abundance and quality. MVI interns working with the Director of Community Programs created

a map showing water springs and their existing forest cover throughout the corridor; grant proposals are being prepared to fund native tree reforestation around these springs. There have also been numerous meetings with inhabitants of the corridor to educate them about the project and learn about their concerns, to point out benefits they could receive and to solicit their feedback and proposals for local projects. One such project that offers economic benefits is the development of rural tourism that began in 2014 with a grant from the InterAmerican Foundation (R. Chinchilla, pers. comm.). In 2015, the office for the CBPC moved to the Monteverde Cloud Forest Reserve in the council's effort to share responsibilities among CBPC founding members (D. Hamilton, pers. comm.)

MVI is deeply involved with two more large-scale, cooperative, conservation, research, education, and sustainable development projects. The first, the Monteverde-Arenal Bioregion Initiative (MABI), was launched in early 2014 at a conference at MVI to promote greater cooperation among all the conservation and higher education organizations (public and private) in the broader regional area to increase environmental conservation and sustainable development as well as research (see: inicativamonteverdearenal.blogspot.com and Burlingame 2014). A second MABI conference was held in April 2015 at the University of Texas' Soltis Center near the eastern border of the League's Children's Eternal Rainforest and north of San Ramon, Costa Rica.

The second project, launched in late 2014, involves a somewhat smaller geographic area that lies within the MABI region. The 28,314 ha Monteverde-Arenal Protected Zone has been a legally recognized entity for decades. In late 2014, MVI was awarded a grant by Costa Rica por Siempre (Costa Rica Forever, an international non-profit funded by a debt-for-nature swap) to write a Management Plan for the Protected Zone for Costa Rica's SINAC (Sistema Nacional de Areas de Conservación--the National System for Conservation Areas). MVI is working in consultation with all of the conservation organizations making up the Protected Zone to develop the plan (AMVI Newsletter 4/20/2015). The Plan is expected to recommend greater communication and cooperation among these organizations (F. Burgos, pers. comm.).

MVI staff members have led applied and long-term research projects such as reforestation techniques with tropical species, carbon dioxide sequestration in tropical trees, phenology and dietary preferences of the three-wattled bellbird. Assembly members have led research projects that benefit conservation and community initiatives (D. Hamilton, pers. comm.). Applied research has also been carried out in courses and special programs (see above) and with Research Associates, Research Affiliates, and interns. Since the main building was completed, the Institute has provided researchers, including those doing thesis research, with a base, help obtaining government research permits, library and laboratory facilities, GIS resources, local contacts, e-mail and Internet service, map plotters, computer printers, etc. in return for a small fee. Research projects have included water quality monitoring programs; evaluation of health problems related to water, smoking, and solid waste management; experimentation with reedbeds for the treatment of graywater; and ways to prevent HIV/AIDS in the area. In addition, MVI has hosted researchers in biology, ecology, and conservation biology who worked on such topics as bird and mammal mapping, bellbird conservation, plant physiology and climate change, and mammal conservation in Costa Rica.

Community Programs

In keeping with the vision and mission of its founders, MVI has used proceeds from its international courses to support programs that enhance education, well being, and sustainable development as well as culturally enriching activities in Monteverde and surrounding communities. Once MVI obtained Costa Rica's "utilidad pública" designation (a legal non-profit status) in 1995, MVI also had an annual obligation to prove its public usefulness. The Institute has been actively involved with all the main conservation, educational, governmental, and health organizations, groups, and commissions in the area, as noted on MVI's website under Community Resources. A recent example is the creation of an official Monteverde Water Commission out of a workshop at MVI in 2014; all the main public and private players related to water in the area are members (listed in MVI Annual Report 2014). In 2015, the Institute hosted an extended workshop, attended by a number of MVI staff and community members, that provided internationally recognized certification in Permaculture

Design (with participants from nine countries). MVI also hosted an intensive long workshop with several other Monteverde organizations given by Costa Rica's EARTH University to learn how organizations can achieve carbon neutrality certification according to rigorous international ISO standards (D. Hamilton, F. Perkins, pers. comm.). MVI workshops and events open to the community have been advertised regularly in bilingual posted flyers, e-mails to all interested parties, Facebook, Twitter, and a Newsletter (starting in 2008). MVI also operates a free electronic community bulletin board that includes upcoming events at MVI and in the community.

In the early 1990s, MVI developed its Family Life Program for disadvantaged women that focused on developing economic autonomy, self-esteem, and leadership; promoting literacy, nutrition and health; and preventing domestic violence and child abuse. MVI supported various small groups, organized workshops, and helped them to obtain assistance from local sources of support and to network with other organizations in Costa Rica. The Program expanded to include adolescents in 1996, addressing their needs including recreation and health issues (drug prevention and sexually transmitted diseases). As part of this, the Sustainable Futures course surveyed "The Life of Youth in the Zone." Efforts to tie Community Development programs with research and service in international courses were a priority under the mission of education for a sustainable future; the addition of international courses in public health tied in well with the Family Life Program that became the Community Health Program in 2001.

The Sustainable Futures (SF) course and other service-oriented courses also carried out projects that could improve the quality of life; these included the design and construction of wastewater treatment options. Other projects addressed building and landscaping needs for local institutions, including: public and private schools; the local Red Cross; the Monteverde Cloud Forest Preserve; the Monteverde Conservation League; a field station (Los Llanos), construction and other projects with the Finca La Bella Cooperative Farm in San Luis. As an example of their new focus on water issues, in 2014 they worked with a local school (CEC or the Cloud Forest School) to analyze water use on the large campus and recommend ways to reduce water consumption.

Subsequently, the school got a grant to build a rain water system to supply toilets that had been responsible for half the school's water consumption (C. Yoon, pers. comm.). SF students were involved in planning for a Pacific Slope trail from Monteverde to the Pacific that would offer economic opportunities to small communities through rural tourism and advance environmental conservation by trying to establish a green corridor. Sustainable Futures courses also developed proposals to convert a former disco and a failing shopping mall into spaces that would support community activities. Since 2007, SF has elaborated plans for "greenways" in the upper section of Monteverde down to the gas station and "sidewalks" from there into Sta. Elena. They collaborated with the local district council to make safe walkways along the main road a reality. SF has also been "collaborating with local public institutions to create and maintain an inter-institutional data base that uses geographic system information [GIS] to illustrate graphic outcome monitoring actual development trends in Monteverde's municipal district" (MVI website).

MVI's Community Outreach Program has worked extensively with a pool of about 150 Homestay families from eight local communities (C. Rocha, pers. comm.). The Institute runs orientations, workshops, and special activities (including computer lessons in MVI's library for some of the homestay mothers) and tries to prepare these families and their MVI students to deal with "culture shock." In 2012, the Program reached out to a new group, local 12-15 year olds, with a camp experience. Counselors aged 16-20 and adult volunteers from seven area communities helped the younger kids have fun, engage in community service, and "develop healthy and educational links between Monteverde's youth and its community members" (MVI webpage; E. Rockwell pers. comm.). Some of the campers became counselors the following years, providing the opportunity to develop leadership skills. The experiment was so popular that it has become an annual event.

Another contribution that benefited the community, MVI's Volunteer Center, was jointly established in 1990 with the Monteverde Conservation League to place hundreds of volunteers attracted to the Monteverde Zone in organizations and to arrange housing with Costa Rican families. Volunteers contributed to local schools; helped the League with tree nurseries and

reforestation; maintained trails and staffed visitor's centers in the areas' nature reserves, and helped other organizations. The Volunteer Center ended about 2000 as individual organizations developed their own volunteer programs.

Local and international volunteers have been welcomed by MVI, particularly under a growing Internship program (see website for current internship opportunities and examples of past projects). Volunteers and Interns have mainly worked on specific projects in conjunction with existing MVI Programs, courses, and community requests. Projects have included water quality monitoring, local water use and management policies, gray water treatment, homestay sustainable development, developing the Pacific Slope Trail, aiding people with special needs, and a study of sustainability in selected tourism businesses. In 2009, MVI interns and former students collected all studies done by MVI students over the years on many aspects of local coffee production. They obtained a grant, translated the research papers into Spanish, published them in an illustrated booklet, and distributed copies at a community event to all the farmers who had been involved in the studies (S. Ropp and M. Cohen-Price, editors, 2009). Other volunteers prepared a Spanish language booklet with nutritional information on vegetables and fruits available in the area. Still other volunteers have developed plans to improve family nutrition through demonstration community gardens at MVI and in several communities.

The second main component of service to the community was MVI's support for the Arts. Supporting musical and other performing artists in Monteverde was a priority from the founding of MVI. The auditorium provided space and a piano for larger performance groups, and MVI began hosting the annual multi-week Monteverde Music Festival. Net income from ticket sales was used to purchase instruments, sheet music, and recordings for use in the area and to support music classes for local schools and students of all ages. A Ceramics Center, built in 1995 in MVI's former house/office, as a cooperative project among MVI, resident potters, and the women's crafts cooperative (CASEM) offered classes and glazing/kiln facilities. In 2000, the Ceramic Center became part of a new larger Community Art Center (CAC) featuring local artists. The house and its property (with an attached conservation easement) were sold by MVI in 2006 as part of the effort to decrease its debt. While MVI continued to

host some art events, it decided that there were enough other facilities, people and groups in Monteverde concentrating on the arts and that MVI "should refocus its efforts on the three cornerstones of its mission: place-based education, applied research, and community engagement" (J. Wilkins, pers. comm.). However, since 2013, thanks to generous local donors and a more financially secure MVI, the Institute again has been hosting and/or sponsoring many concerts and the Music Festival as well as art exhibits, poetry festivals, and a story telling workshop. In an important new contribution to the arts, in 2015 MVI's Library welcomed the first permanent art collection of about 300 original paintings, prints, and illustrations by 16 local artists. Several of these artists had raised funds to commission a wooden cabinet to hold the art works; anyone may see and study them. Eventually these artists would like to have their own museum (AMVI Newsletter, July 2015).

MVI has provided direct financial benefits for local people employed as MVI staff, teachers, taxi drivers, cooks, guides, and for families offering homestays for MVI students. They also pay owners and employees of lodging and dining establishments and other business services and suppliers; in 2010, for example, MVI paid out more than $350,000 to community service providers (Wilkins 2011). These payments, in turn, flow back into the community, as does money spent by MVI's international faculty, students, and researchers. Some in the community have received individualized financial benefits such as scholarships to attend MVI courses and workshops, and financial aid (for MVI employees) to continue their education.

A special kind of indirect financial benefit developed with MVI's 25th Anniversary. MVI and CREST (the Center for Responsible Travel) co-sponsored the 3rd International Travelers' Philanthropy Conference; 150 delegates from 20 countries met in San José and then Monteverde. Travelers' Philanthropy encourages travelers to give "financial resources and talent to further the wellbeing of local communities" (www.travelersphilanthropy.org). As Wilkins notes, if each of the about 240,000 people visiting Monteverde per year contributed a dollar, there would be a lot of money for community development. In the year's run-up to the conference, MVI helped launch a pilot destination-wide Monteverde Travelers' Philanthropy initiative "designed to equitably

channel financial resources from the tourism sector for the benefit of the communities and natural environment of the Monteverde region" (www.philanthropymonteverde.org). They obtained a grant from the Inter-American Foundation for a three year pilot project to set up the structures and operating procedures for a new organization and were helped by MVI, CREST, the Monteverde Chamber of Tourism, and a local bank. Initially, six hotels and several other businesses collected donations. Enough money was raised to fund major safety and access improvements to Santa Elena's multi-use community center that functions as a gym for the high school and a site for educational, civic, and cultural events (www.philanthropymonteverde.org). In early 2103, they became the independent non-profit Monteverde Community Fund (Fondo Comunitario Monteverde; www.monteverdefund.org); MVI continues to collaborate with them.

Conclusion

Nearly thirty years after its founding, the Monteverde Institute has certainly met the expectations laid out by its founders. In keeping with local and global changes since 1993, it broadened its mission to "education for a sustainable future." A wide range of courses has been linked to that mission and supported through many institutional partnerships. By 2016, MVI will have provided about 550 courses to approximately 10,000 students. A centrally located impressive campus offers many state-of-the-art facilities essential to that mission while putting sustainability and conservation into practice. As it has provided unique place-based learning environments for international students, it has encouraged those students and researchers as well as interns and volunteers to develop applied research projects that generate information and options to help local communities deal with pressing issues. These have ranged from architectural and landscape designs and community development planning to water quality, from health and nutrition issues to applications of conservation biology theories and practices to promote conservation and maintain biodiversity outside of already protected areas, and to measures addressing global climate change. MVI has also brought substantial educational, cultural, and economic benefits to local communities.

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