

Population, environment and health in community capacity in response to global tourism expansion in the Caribbean Region. Case study of Cuba

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Extended Abstract

In 2006, an unprecedented 842 million international tourism arrivals were documented worldwide (United Nations World Tourism Organization, 2007). This global tourism expansion, boosted by the interplay of global investment, values, tastes, and travel made possible by enormous changes in technologies, alongside the eagerness of tropical low-income countries to attract new revenues, has led to the dramatic restructuring of an increasing number of previously isolated coastal communities. Despite the promise of prosperity that is the allure of tourism expansion, there is growing evidence of a risk of negative impacts on the health and wellbeing of local populations (Apostolopoulos and Sonmez 2002; Guerrier and Adib 2000; Frechtling 1997). As the effects of tourism are felt at a local level, it is valuable to study how communities are responding to such change.

As part of a larger research program to investigate the impacts of globalization on social organization and health, this study was initiated to better understand the impacts of the specific “global development” vector, tourism, in specific community settings in the Caribbean. To this end, we sought to take advantage of the “natural experiment” provided by the expansion of tourism in Cuba. On one hand, despite Cuba’s persistence on the “margins of globalization” (Spiegel and Yassi 2004), over the past 15 years, this

Caribbean island has dramatically been re-opened to international tourism arrivals, transforming the industry into one of Cuba's most important economic activity. On the other hand, Cuba's noteworthy achievement in promoting health (Cooper et al., 2006) has been indicative of its independence from the influence of globalization that has led many other countries to dramatic weakening of local capacity attributable to Structural Adjustment Policies (De Vos 2005). Consequently, our multi-national team wished to study how Cuban communities are responding to tourism, to protect and promote health of local communities in order to ultimately inform cross-country comparisons. This article thus examines the community health promotion programs Cuba has developed to help mitigate the negative health effects of tourism development.

At same time the research studied the high priority actions to consolidate the protection of the biodiversity of the Sabana Camagüey Ecosystem (SCE)", CUB/98/G32; (CUB/98/G81/A/5G/99 (Capacity 21), includes the result "Institutional and Intersectorial Conscience strengthen in relation to the subjects of the conservation of the environment and the sustainable development for the integrated coastal management ".

The same one the project was directed by decision makers at local level (communities and municipals).Among the main sectors of the population, decision makers are social actors who play important roles on the economic and social spheres, because they direct, plan and control all the process at their level.

Depending on the knowledge and environmental culture of the decision makers, depend the gain of both, objectives and goals of a sustainable development Was other general objective of this work has been: To develop capacities on the decision makers and provide practical tools for the environmental management, contributing to the formation of an ethic on the environment, sustained in the conception of the sustainable development like a important part of the population and environment relationship for the Caribbean region.

METHODS

To consider the community implications of global tourism development, we chose two distinct communities: 1) a community that is at the early stages of impact, and 2) a community with a long history of tourism involvement. In this way, we felt that we could both examine how impacts and response have been experienced retrospectively, as well as how preparation is being conducted with regard to new development. The two communities chosen are situated along Cuba's northern coast [Insert figure 1.1 about here]. Caibarién is a fishing town of 40,000, connected by a newly constructed causeway of 80 kilometers to the new tourism destination in the North-East Keys of Villa Clara Province, that was still only partially completed (1 in 5 hotels were operating) at the time of the study. Cárdenas is a city with a population of approximately 100,000 that is adjacent to the well-established resort destination of Varadero and is the home for the majority of tourism workers in the region.

At an early stage of project development, local municipal and health area officials in each community were contacted to develop the plans for conducting the study in a participatory manner.

Eight focus groups were held to gain an understanding of the perceived impacts as well as the activities undertaken to mitigate these impacts. Four focus groups were held in each of the communities, each comprising individuals with distinct relations to tourism development: a) decision-makers (representing government and city officials); b) community (members of community at large, including farmers, workers, teachers); c) health related workers; and d) tourism industry workers. The two communities were targeted, one month apart; and the four groups in each community met simultaneously for one and a half hours, each with different facilitators. The sessions were recorded and later transcribed for the purpose of outlining and determining the comprehensiveness and relevance of the information.

After key informants were also interviewed, a descriptive text analysis was prepared and an information matrix developed. Based on the information that emerged, health concerns were grouped in the following areas: psychosocial concerns, occupational health, infectious and chronic diseases, societal and environmental concerns. Finally, community meetings were held to report on the findings and identify areas felt to be of particular concern for future policy and action. All focus group participants and key informants were invited to attend these meetings.

The used methodology was developed in the following stages: Compilation of information; analysis of the information; elaboration of the qualification module; determination of the indicators and tools for the evaluation of the process of qualification and for the monitoring of the impacts; execution, evaluation and monitoring. Were used to others methods for the conservation of the biodiversity like a part of the population and environments studies: Team work, brain stormy with facilitators of discussion; elaboration of proposals of problems, problematic and subjects.

The analysis and processing of the information, was made by means of the compilation of the elaborated information and the reports of 9 workshops done, with the participation of more than 100 specialists of 23 institutions and organizations of the territories involved in the Sabana Camagüey Ecosystem (5 provinces from Cuba which represent the third part of the country and the others countries from Caribbe) and their later ordering. It was determined the degrees of priority and importance of the information, by means of the elaboration of matrices and the pondering of values to the treated subjects.

The main results of these analysis were: of problematic and the problems of the ecosystem, 62.5% are of top priority, 25% of priority and 12.5% of importance; the identification of the causes of those problems, from that 180 approached, were grouped in 29 topics, for its consideration on the contents of the subjects; the selection of 12 subjects, by means of the application of the same methodology. For the elaboration of the contents of these subjects groups of specialists were created, mainly integrated by the participants in all the process, analysis of the scientific and pedagogical rigor by other

groups in a workshop done on this objective, also determining the supporting materials for each subject, like videos, infographys and others.

A basic module of environmental formation was elaborated, made up of 14 pamphlets (the 5 of top priority, 6 of priority, 1 of importance, 1 of good practice of sustainability and 1 methodological manual, elaborated by pedagogues of highly experience and qualification); 6 videos: handling of the biological diversity, practical of cleaner production, sustainable agriculture and others) as well as 9 infographys for the development of contents of the subjects and 2 taped lectures, on Caribbean Conservation of the Patrimony and Urban Environmental Management.

For the evaluation of the qualification process and the monitoring of the impacts, indicators and instruments were determined, for the systematic collection of the data and for the evaluation of efficacy, efficiency, pertinence, impact and viability of the result and today exist an important issue that in addition has been replied in others countries of the region.

This work is considered by the Cuban Environmental Authority and for the Caribbean Studies Association as a result of great social and environmental impact because it has become the first experience of this type in the countries involving decision makers of multiple sectors of social and economic interest.

Some results on the population, environment and health in community capacity in response to global tourism expansion in the Caribbean Region were.

IMPACTS

PSYCHO-SOCIAL IMPACTS

Issues related to psycho-social impacts of tourism were raised more frequently than other impacts in the focus groups in both communities. Interestingly, addictions and obesity were consistently reported less emphatically than changing values, disparity and dysfunctional families.

One participant expressed that tourism “*allowed us to grow as individuals.*” However, concern was expressed by others that “*the mentality of the community is changing*”, possibly due to the real or perceived inequality in comparison with affluent tourists. In fact, a risk factor for mental health stress was attributed to the “*prominent [economic] difference between the workers in tourism and the rest of the community.*” As a result, “*all young people [now claim] they want to work in tourism.*” It was reported that precisely this type of “*mental stress*” explained the unwelcome behavior of “*harassment to tourists*” by some young people. No less important were the remarks about family tensions resulting from a perceived reversal of gender roles in families where women have a higher income than men. Finally, perhaps a deeper psycho-social impact of tourism may be reflected in statements such as “*[now] there is lack of communication between [tourism] workers and others, [including] family and the rest of society*”, and “*[previously] normal families [are becoming] dysfunctional families.*”

OCCUPATIONAL HEALTH IMPACTS

Several risk factors for occupational health related to tourism were recognized among tourism workers. In both communities, the particular risks identified were increased “*job-related stress*”, risk of “*pelvic diseases for women*”, “*varicose veins*” and “*back problems*” largely due to higher work pressure and longer work hours than in other jobs. A gender-specific health concern raised was that women working in the tourism industry continue working “*well into their pregnancy*.” There was also a concern raised regarding workers who are exposed to toxic agents such as new cleaning products that have been introduced specifically for the benefit of the tourism industry.

INFECTIOUS AND CHRONIC DISEASES

Understandably, concern about sexually transmitted infections (STIs) including HIV/AIDS seemed to be high particularly in the health workers focus group. In Cárdenas, it was reported that 60% of those affected by HIV/AIDS in the community were directly or indirectly connected to the tourism industry. Although tourism is by far the most prominent economic activity in this community, overall the focus group participants in Caibarién did not consider tourism-related STIs to be a problem, however. Other concerns were related to perceived risks of vector-borne diseases, the potential re-introduction of cholera and the introduction of other exotic diseases.

SOCIETAL IMPACTS

Corruption and other unlawful activities, and prostitution were reported by decision-makers and community participants in Cárdenas. The community focus groups in both communities specifically highlighted their concerns regarding societal impacts of tourism. Prostitution was acknowledged to be a general problem of tourism by focus group participants in Cárdenas, whereas “*in Caibarién there is no prostitution like in other places*.” Harassment of tourists in the form of youngsters approaching visitors to ask for a gift or money was considered to be a problematic nuisance in both communities.

ENVIRONMENTAL IMPACTS

Pressure on waste management and beaches from contamination was noted to threaten environmental well being of Caibarién and Cárdenas. People reported increased volumes of waste as a result of tourism development and large number of visitors concentrated in a small area. This was noted to create “*garbage collection problems*.”

MITIGATING PROGRAMS AND STRATEGIES

The study identified a wide range of programs in the communities that serve to mitigate the negative impacts of tourism, as summarized in Table 2. Some of the programs are local adaptations of national programs, while others have been specifically developed for the local context.

Noteworthy, as a national policy, was the creation in the year 2000 of the Projects Management Office at the level of the Provincial Assembly of the People’s Power (provincial Parliament) in all 14 Cuban provinces. One of the tasks of these regional offices was the supervision of tourism projects and their impacts, as well as developing

“community capacity” and “health improvement” by working with the community organizations and youth in particular.

The focus groups highlighted another national policy that serves tourist developments in particular, namely the strategic deployment of physicians with specialty in Occupational Medicine to all Cuban resort places. The role of these physicians, aside from attending to the medical needs of tourists, includes health promotion for tourism workers, vector control, and prevention of diseases in tourism workers through vaccination and regular examinations.

Caibarién

“*Barrio debate*” (Neighborhood debates), a program also run in the whole country, that was identified by the groups in Caibarién, involved periodic meetings between officials and community dwellers to examine broad community concerns such as “*sanitation problems*”. This initiative was reported to empower the community by creating the means to develop response capacities to mitigate the negative impacts of tourism including psycho-social impacts. From this program, initiatives, such as the completion of a new waste management system for the community and the enactment of legislation to ensure that one physician was placed in each resort hotel, had been implemented. Group members noted that all types of concerns could be voiced at this meeting and thus the group, while sponsoring direct mitigation efforts, was indirectly creating stronger social cohesion and reduced mental stress.

At a very local level, a program was reported to have been used in a neighborhood development for tourism workers called “*Tarea Álvaro Reinoso*” (“Alvaro Reinoso Task”). This was a national program widely used since the time of the Cuban economy restructuring in the early 1990s in order to address the massive layoffs of workers in the sugar industry and the subsequent shift to the tourism industry. Originally this program provided special retraining opportunities to workers but it was used today to “*identify problems stemming from the local community*” through meetings and focus groups.

In response to increased *alcoholism and drug abuse*, focus group members in Caibarién observed that the municipal authority had developed two radio programs which aired each week for one hour. The aim of both programs was to promote health education, while emphasizing the risks of alcoholism and drug abuse. The radio programs were thought to be specifically targeted towards at-risk populations such as those working within the tourism industry or youth prone to alcohol and drug use due to increased exposure to tourism.

Promotional and literacy pamphlets, developed in conjunction with the Provincial Centre of Hygiene and Epidemiology, also outlined the risks of alcohol and drug consumption as well as STIs, and promoted the use of condoms. Pamphlets had wide distribution in hotels and at local restaurants aided by industry workers themselves. Similarly, *community health programming* targeted tourism workers, students and school counselors

through the distribution of educational material dealing with the health risks involved in prostitution, alcoholism, tobacco and drug use. It was noted that this educational material was available at tourism training institutes as well. In addition, community health workers reported visits to local schools in an effort to encourage discussion with students and school counselors in these areas. All the above efforts were financially supported by the Cuban government.

In dealing with *increased pressure on the environment* in Caibarién, programs were described that aimed to educate the local community on the relationship between health, environment and sanitation. “*Mi Casa bonita, mi casa saludable*” (My beautiful home, my healthy home) was said to target households and it specifically “*creates awareness in environmental health.*” Collecting waste and promoting clean surroundings and public places, were among the tasks that people performed within this program.

In reference to the response to HIV/AIDS, education was noted as the primary strategy used by the government in an effort to promote prevention. One such effort was a contest held in Caibarién among local artists who were asked to create artwork around the theme of HIV/AIDS. Reportedly the art was infused with educational topics and placed on display. Also in Caibarién, media displays in schools were reported by the groups, as an additional effort to educate youth and students about the risks associated with the pandemic and adequate prevention measures to protect themselves.

Besides targeting specific public health areas or population groups, inter-sectoral coordination across areas of concern and within multiple sectors of the community were noted. In Caibarién, “*Reunión del Sistema*” (System Meeting) was explained as a weekly meeting between healthcare professionals and community leaders from various sectors and levels of government. At these meetings the issue of vector surveillance was routinely examined and decisions made regarding health interventions and interventions for community well-being in general.

Cárdenas

The national level “*Coraza Popular*” (Popular Shield) program which operates in all Cuban provinces was specifically noted in the focus groups in Cárdenas. This program, which started in January 2003, has as its original objective to end drug trafficking and selling, but through the community participation now also raises awareness about the harm derived from the use of drugs. Its results were noted to be “*positive.*”

In response to increased *pressure on society*, a program in Cárdenas known as “*Acciones para la Creación del Turismo Positivo*” (Actions for the creation of positive tourism) was said to offer youth events such as arts, crafts, sport, and dance twice weekly. It was thought that this sort of activity would improve the mental well-being and coping mechanisms of youth participants. In addition, Cárdenas was noted to have employed community workers to advertise this youth program within the community, at the beaches in particular, and in so doing increasing community capacity to respond to health concerns. All events arranged for the youth were free, funded in part by municipal

authorities and in part by local resorts as a “*pay back or compensation*” to local communities.

In response to concerns about increased *traffic accidents and fatalities*, the municipality of Cárdenas had created the “*Committee for Transit Safety*.” This committee met twice a month at city hall to discuss problems identified by police concerning traffic issues. The committee was responsible for promoting road safety and controlling 5 billboards in the municipality which displayed traffic safety information about seatbelt use, traffic laws and driving under the influence of alcohol. It was perceived by focus group members that this initiative had improved the community’s infrastructure and decreased perceptions that tourism caused heavier traffic and associated injury.

Student Volunteer Brigades were reported to have been periodically dispatched to clean beaches and surrounding areas. In addition, the municipality had engaged research projects into the impacts of tourism on society and the environment, targeted to decision-makers at municipal levels.

Finally, local government committees existed to target problematic areas of STI’s, addictions, safety and housing for tourists. It was reported that all community members were targeted by these issue specific committees.

DISCUSSION

There is considerable literature that has been developed to deal with health concerns associated with tourism (although a disproportionate amount involves travelers and not local populations). These range from mental health concerns (Scott 1998), violence and crime, (Kandela 2000; Apostolopoulos and Sonmez 2002;) drug and alcohol addiction (McMurray 2004; Guerrier and Adib 2000; Frechtling 1997), traffic-related accidents (Richter and Richter 1999; Rodriguez-Garcia 2001; Richter 2003), environmental impacts (Frechtling 1997; Stonich 1998; Richter and Richter 1999; Rodriguez-Garcia 2001; Apostolopoulos and Sonmez 2002; Richter 2003) occupational health concerns (Scott 1998; Guerrier and Adib 2000; Richter 2003), STI’s (Rodriguez-Garcia 2001; Apostolopoulos and Sonmez 2002; Richter 2003; McMurray 2004; Huda 2006) as well as sex tourism (Rodriguez-Garcia 2001; Richter 2003), infectious disease (Richter 2003) and changes in healthcare structure and services (Frechtling 1997; Apostolopoulos and Sonmez 2002).

To address the identified concerns, the Pan American Health Organization launched a quality tourism project to protect the health of tourists as a means of ensuring the economic viability of the tourism industry. There are indeed ample reasons to be concerned that economic pressures to develop tourism lead governments and the tourism industry to avoid reporting health risks to travelers (Richter and Richter 1999; Apostolopoulos and Sonmez 2002; Richter 2003), which can be problematic. Just as important for sustainable tourism, however, is a much more neglected concern, namely the impact of tourism expansion on the health of the host community. Not only is research on the health impacts of tourism on local communities weak, adequate

information on specific efforts to mitigate the health impacts of tourism development on local populations is virtually non-existent (Frechtling 1997).

In the case of Cuba, pressures on the population due to large influx of international tourists, recent and brisk development of tourism destinations, and the reluctant adoption of different lifestyles due to the “demonstration effect” from tourists are pathways by which Cuban communities are experiencing impacts. Our research confirmed the existence of concern by local populations involved in international tourism; and our focus groups and interviews indicated that significant changes in many health areas do merit community response. We found that Cuba is indeed devoting considerable effort to mitigate the negative impacts of tourism, particularly in the form of health education and participatory programs. These educational programs, in keeping with the unique approach to health that Cuba has taken since the revolution in 1959 are embedded in a well-developed, multi-sectoral healthcare system and an unparalleled social and political will to protect public health (Spiegel and Yassi 2004). Consequently, although Cuba only re-opened to international tourism in the past decade and a half and has seen a resurgence of some of the pre-1959 social ills as a result, Cuba is actively addressing the negative impacts in a systematic manner.

The literature talks about the importance of public education programs for tourists to minimize health problems including those related to travel-specific diseases, behaviour modification, personal hygiene, food-borne diseases, sexual behaviour and drug use. Some actions advocated to mitigate traffic-related deaths and injuries are better surveillance systems (Rodriguez-Garcia 2001). As we saw from our study results, Cuba has actively promoted training programs for tourism workers in safety and health as well as an effective surveillance capacity. Some of these programs, of course, help mitigate both the impact on tourists and on the host community.

It has been increasingly well-established that tourism creates greater exposure to drugs and alcohol attributable to work pressures and increased contact of local community members with tourists. Bellis et al. (2003), in their extensive studies of drug use by tourists in tourist nightclubs, call for more collaboration between sectors in the tourism industry, specifically suggesting educational programs for tourists to mitigate the health risks associated with drug use. The Cuban communities we studied consider youth to be the most vulnerable population in relation to addictions, and the mitigating policies adopted in these two communities especially targeted youth.

As a response to the spread of STIs through sex tourism, experts have suggested that sex trade workers be licensed to better monitor their health, that the general population be educated about safe sex practices, and that legal provisions to protect children from the sex industry be strengthened (Richter 2003). Hansen and Groce (2003) noted a rise in HIV infection rates in Cuba in 1996 corresponding to increasing tourism but more recently the number of reported cases of AIDS dropped from 447 in 2002 to 147 in 2005 (Oficina Nacional de Estadística, 2005). This can likely be attributed to Cuba's rigorous and universally accessible public health measures to combat HIV-AIDS. Our focus

group participants indeed concurred in that Cuba's HIV-AIDS prevention programs contribute to the decrease of infection rates despite the expansion of tourism.

Coinciding with larger trends towards greater environmental stewardship, the tourism industry has aimed to consider forms of sustainable tourism development (UN Tourism publication.) From our findings, it would appear that a multi-sectoral strategies undertaken in Cuba, such as the "Barrio Debate", has aided in improving sanitation infrastructure and education to promote ecologically friendly approaches to tourism development. As a focus participant expressed: "the concept [of health] has expanded and there is a tendency to take into account an environment free from pollution [for being] healthier." Stonich (1998) notes, for example, that to mitigate the negative impacts of tourism on island ecosystems, tourism businesses should monitor their own impacts as well as inform tourists about the social and environmental implications of their visit. Sensitive to such impacts, responses are increasingly being implemented, such as a case study from Namibia documenting the installing of water-saving technology at a main tourist camp (Bethune and Schachtschneider 2004). Cuba is addressing environmental quality in its tourism communities by improving its sanitation infrastructure and creating programs that discuss sanitation and other environmental issues.

According to our findings, Caibarién, a community relatively new to engagement with tourism compared to Cardenas, has implemented more active and comprehensive mitigation measures in comparison to its older counterpart. The differences between these communities suggests that localities undergoing new or rapid integration into the world of global tourism may be learning from what has happened elsewhere, and are attempting to maintain strong community links to combat negative health outcomes. While extrapolating from just two communities must be undertaken with caution, our findings suggest that newly affected communities might even be more willing to implement mitigation efforts based on local needs and multi-sectoral approaches than more established tourism locations, as it is easier to begin these efforts before less healthy practices are well-established.

The variety of programs identified in the two Cuban communities studied shows creativity and a strong commitment to address the impacts of tourism. Although the results of such efforts cannot yet be determined, the efforts implemented by local communities are seen by community members as positive. More research into such efforts would prove fruitful for the many communities experiencing similar health challenges due to expanding tourism infrastructure.

To understand the high priority actions to the protection of the biodiversity for the sustainable development and to integrated coastal management like a part of the studies of population and environment in necessary to know the characteristics of the Sabana Camagüey Ecosystem (SCE).

The Sabana-Camagüey Ecosystem encompasses an approximately 465-kilometer strip along the Cuban northern central zone between Punta Hicacos and Nuevitás Bay. The

study area covers about 75,000 km² (19,000 km² watershed) and comprises the northern watershed or hydrographic basin of five provinces of Cuba: Matanzas, Villa Clara, Sancti Spiritus, Ciego de Ávila and Camagüey provinces, the Archipelago (SCA, the sea shelf with its keys) and the adjacent Exclusive Economic Zone. The five provinces group a total of 58 municipalities. Of these municipalities, 40 belong to Sabana Camagüey Ecosystem and of them, 19 are coastal municipalities.

The SCE has more than 1,700 inventoried marine species and more than 1,300 inventoried terrestrial species, being hosts of 258 endemic species and an essential sanctuary for migratory birds, which stop here during migration between North America and points south.

The SCE is sharing with the United States and Bahamas (and Bermudas, perhaps) some marine migratory species (turtles, sharks, swordfish, tunas) and met populations of coral reefs and sea-grass bed species. In SCE coral reefs of regional and global significance are widespread. Due to its natural, archaeological, cultural and scientific values, this archipelago has been designed as a high priority area for biodiversity conservation by the Ministry of Science, Technology and Environment (CITMA).

Goal of the UNDP Project Capacity 21:

In order to develop synergy and partnership between the GEF (Sabana Camagüey project) and UNDP (Capacity 21 project), was taking into account that GEF project is structured in three outcomes. One of these outcomes (Outcome 3) was addressed to the environmental education of the target-group of the territory (**communities**-women, children, artists, farmers, public and private workers and **decision makers** –decision makers in economic sectors and leaders from the local governments-)

It was evident that the actions addressed to the environmental education of these *target-groups*, and the actions addressed to awareness strengthen and capacities for coastal integrated management among institutions, economic sectors and main communities along the SCE (Capacity 21 project), must be complementary and coherent. For these reasons, Capacity 21 project was considered the Outcome 4 of the GEF Project

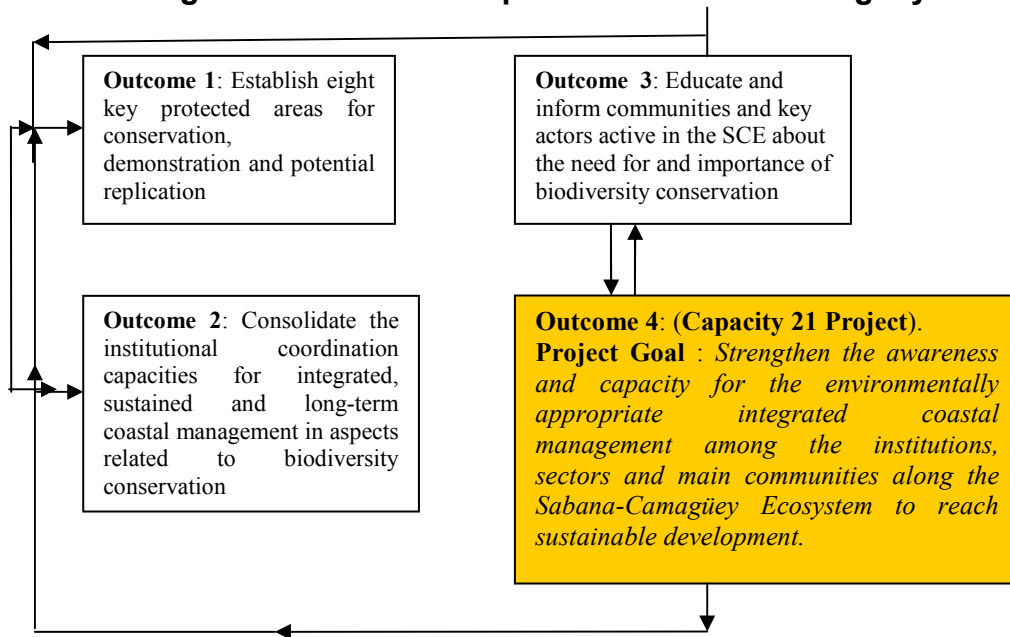
The actions of environmental education and the actions corresponding to Capacity 21 project cross cutting to the actions implemented into the context of the Outcomes 1 and 2, as is shown in the scheme 1. The Outcomes 1 and 2 were directly focused to the marine and terrestrial biodiversity protection (establishment of protected areas, existence of Integrated Coastal Management supported by a Council for Integrated Management in the SCE, inventory of focal groups of terrestrial and marine flora and fauna in priority areas, network of monitoring stations, knowledge about the general health status of ecosystems and populations of global-concern species, and development plans and zoning carried out on environmental bases)

The Capacity 21 project was formulated considering the decision makers as prioritized target group and based in the following aspects:

- Raise the professional competence (environmental) in the economic sectors
- Enhance the environmental awareness in local governments.
- Offer practical tools to contribute to the formation of a new ethic related to environmental issues, based in the sustainable development.
- Replication and diffusion of the lessons learned during its execution.

Project Goal: The conservation of valuable marine and terrestrial biodiversity of Sabana-Camagüey Ecosystem (SCE) and in particular of the Sabana-Camagüey Archipelago (SCA), north of Cuba.

Scheme 1: UNDP/GEF Project CUB/98/G32: Protecting Biodiversity and Establishing Sustainable Development in Sabana Camagüey Ecosystem



The design of the Capacity 21 project was characterized by a wide participation of ministries, economic sectors, universities, NGOs, government authorities, citizen representatives from local levels (municipal, provincial) to the national level, lead by Environment Agency of Cuba with the contribution of Provincial Pedagogical Institutes belonging to the five provinces. The impact of the activities developed was effective not only on Community of References; its influence had been further away of them.

Table 1. Priority levels and importance of environmental problems existing in SCE.

Problems	National	Territorial	Provincial	Total
Contamination of marine and terrestrial waters	5	50	65	120 MP
Soil Degradation	5	40	55	100 MP
Deforested Areas	5	50	35	90 MP
Loss of biodiversity	5	60	25	90 MP
Human settlements deterioration	5	20	20	45 P
Atmospheric contamination		20	65	85 MP
Cultural heritage deterioration		20	20	40 P
Loss of mangroves		15	15	30 IMP

MP: Priority Maximal

P: Priority

IMP: Of Importance.

Table 2. Content of pamphlets included into the Module on Basic Environmental Formation, according to the priority of problems.

Priority of Problems		
Priority Maximal (MP)	Priority (P)	Of Importance (IMP)
<ul style="list-style-type: none"> ✓ Sustainable Agriculture ✓ Coastal Integrated Management ✓ Sustainable Management of Biodiversity ✓ Cleaner Production Practices ✓ Contamination and Management of Wastes 	<ul style="list-style-type: none"> ✓ Forestry Management ✓ Urban Environmental Management ✓ Soils Management ✓ Sustainable Tourism ✓ Conservation of Cultural Heritage ✓ Hydraulic Resources Management 	<ul style="list-style-type: none"> ✓ Environmental Planning

The Main Lessons Learned are:

- Synergistic effect of a GEF Project and a UNDP/Capacity 21 Project, constitute a system without energy loss. Both projects are complementary in an holistic way like a part of the population and environment at local level to planning challenges in order to produce an highly efficient impact, from a scientific and economic point of view.

- The more effective manner in order to identify gaps in the environmental knowledge in economic sectors at local level is by means of a participative process where all the involved local population (actors, from the local levels, are participating to identify their learning needs). These actors must participate, also, in the implementation of necessary actions to fill these gaps.
- Replication of acquired knowledge with the Capacity 21 project has been a contribution to the reduction of negative impacts from the tourism activities, in similar ecologically sensitive Caribbean ecosystems.
- A paradigm of the protection and conservation biodiversity in coastal zones is its integrated management. In order to understand the scope of this paradigm by the main decision makers in economic sectors and governments, to all levels, linked to these zones, it is necessary to implement a process, relatively long, of environmental education, with view to achieve leadership in the social groups.
- The messages associated to the conservation of the biodiversity and the natural resources, in general, must go accompanied of real alternatives that contribute to the solution or minimization of the problems, to eradicate the causes of affectations to those resources. In opposite case, changes of attitudes cannot be obtained and much less approaches will be able to become of sustainability, since many of the resources that are needed to protect and to conserve, constitute means of life of the populations of the communities.
- The elaboration of Manual of Good Practices for the Protection of the Biodiversity in the Caribbean, in selected subjects, for their diffusion between several target actors (workers of the sectors, executors of feasibility studies, educational), not only of the ESC, but of the rest of the Caribbean countries, as well as Good Practices in the hotel activity, Good practices of the constructive activity in fragile ecosystems, directed to the tourist infrastructure development, Manual of Qualification for the Voluntary Monitoring of Early Alert in Coralline Reefs", directed fundamentally to the overcoming of the instructional divers guide of Diving Centre in the tourist sector, Subjects of fishing and fishermen, directed to promote the elevation of his environmental knowledge.

CONCLUSION

It is increasingly well-established that the ability of communities to respond to the economic pressures of globalization is an important determinant of community health. This case study of two communities in Cuba illustrated that communities can create programs and improve infrastructure to sustain population health despite changes and burdens on lifestyles and environments from tourism development. Longitudinal studies

are needed to assess the sustainability of these programs and to evaluate the impact of these measures in protecting health.

MESSAGE

Although prospective studies of the relationship of the population and environment in the local level are needed to evaluate the long-term effectiveness of mitigation strategies, the significant commitment to tackle the negative impacts of tourism in the Caribbean and in particular in Cuba provides lessons from which communities elsewhere can learn.

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