FACTSHEET 1 GOOD NUAC IMPLEMENTATION PRACTICES

Title: BiodiverCity Monte Barreto chapter. Citizen science for local conservation.

Place: Playa municipality, Havana.

Financing Source: Antonio Núñez Jiménez Foundation.

Description: Update the inventory of species that live in the Monte Barreto 16-hectare ecological park. Led by the IES, several researchers and institutes got together to make an inventory of the area depending on their respective disciplines with the collaboration of neighboring elementary and secondary schools and inviting community stakeholders.

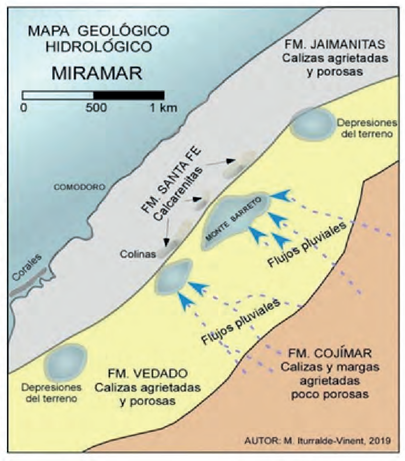
Baseline Situation: The inventory was outdated (10 years), several development projects threaten the site's biodiversity value, its drainage environmental service and ecologic balance, which undermined intersectoral communication as there was no updated science-based arguments to convince on the importance of its preservation. Due to its geology, this area is the natural sink and drain of three neighboring municipalities and the preservation of its environmental service contributes to minimize the impacts of extreme weather events like floods. Its forest provides other environmental services, namely it is one of the city's biological corridors for migratory birds and is the habitat of several local species, in addition to its CO_2 sequestration capacity and climatic regulation that helps disperse heat areas

PAN area it addresses: Strategic pillar PLANNING, LT1. Coordinate mobility, urban structure and public space design through planning and LT3. Improve public spaces through planning and Strategic Pillar RISKS AND CLIMATE CHANGE, LT22. Reduce human settlement risk exposure and LT23. Increase human settlement resilience.

Involved stakeholders: IES, UH (School of Biology), Geology, Zoology, Botany Scientific Societies, Manuel Bisbé Secondary School, Cesáreo Fernández Elementary School, community, FANJ.

Main outcomes: Ecologic inventory of the Monte Barreto Park and land use preservation with its environmental services.
Communication actions carried out on the basis of the scientific inventory not only helped raise awareness on investors to scale down their planned infrastructure to develop restaurant services within the Park but also contributed to developing a sense of ownership among community members. The bigger change was the recovery of the park's environmental services, which had been lost in the las five (5) years and threatened to extend, while the community rescued an area for healthy and environmentally sustainable outdoors recreation. On the other hand, the scientific sector incorporated an area of the city back into their research, offering it as a work and testing ground, laboratory, outdoors classroom for university students with no significant transport charges in contrast with other field trips

Images:



FACTSHEET 2 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Public spaces reanimation in the city of Jatibonico.

Place: Jatibonico municipality, province Sancti Spíritus.

Financing source: Habitat 2 Project (COSUDE donor).

Description: Reanimation of two children's park in the municipality (Arroyo Blanco and children's park) with benches, lights and waste bins. In addition, the Serafín Sánchez park was refurbished and a micro-park was installed in the buildings' area.

Baseline Situation: Deficit and deterioration of existing parks in the municipality, some of which had been turned into micro-dumpsites.

PAN area it addresses: Strategic Urban Planning Pillar, LT1. Coordinating mobility, urban structure and public space design through planning LT3. Improving public spaces through planning.

Involved stakeholders: Project Habitat 2, Municipal Government, Municipal Communal Service Division, Physical Planning and population of the municipality of Jatibonico.

Main outcomes: Several spaces of the city and communities were improved; urban structure and population mobility was enhanced; spaces were created for children, youth and adults' healthy recreation; which improved the quality of life of families as a whole. It also brought about changes on the urban image and improved the environment and environmental health with the elimination of micro-dumpsites.

Images:

FACTSHEET 3 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Reanimation of public spaces Avenida Libertad and Valentín Menéndez promenades.

Place: Aguada de Pasajeros municipality, province of Cienfuegos.

Financing Source: Habitat 2 Project (COSUDE donor) and Municipal Communal Service Division.

Description: Reanimation of promenades and placement of street furniture and lamps, garden rehabilitation, pruning of trees, planting of ornamental species and grass.

Baseline Situation: This spaces were very deteriorated, lacked lighting, Street furniture was in very poor conditions and there were no conditions for the operation of the WIFI park located there. Neighbors had reiterated the need to trim trees as they were a vulnerability to weather events.

PAN area it addresses: Planning Strategic Pillar, LT1. Coordinating mobility, urban structure and public space design through planning and LT3. Improving public space through planning.

Involved stakeholders: Municipal Government, Communal Services, Physical Planning and population.

Main outcomes: Recovered public space that allows for citizens' participation and interaction. The population now has a safe, inclusive and accessible place they can go to where all persons can interact without any distinction of sex, ethnic group or age, which is more comfortable and attractive.

Images:

Paseo Valentín Menéndez

Paseo Avenida Libertad

FACTSHEET 4 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Construction and rehabilitation of public spaces in Manicaragua.

Place: Manicaragua municipality, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor), the central budget and the land contribution (1%).

Description: Construction of a park in the building for natural disaster victims in the municipal seat, since the urban development works were never concluded and redesign of the city Boulevard. The community took part on the process, its members' priorities were identified and their views on the public spaces they want were considered.

Baseline Situation: The urban development works of the building for natural disaster victims had never been finished and the Boulevard was deteriorated, particularly its lighting system, benches and seating areas and solid waste bins.

PAN area it addresses: Strategic Planning Pillar, LT1. Coordinating mobility, urban structure and public space design through planning and LT3. Improving public spaces through planning.

Involved stakeholders: Municipal Administration Council, Physical Planning, Municipal Communal Services Division, CUM, Habitat 2 and community.

Main outcomes: Advantages of a participatory management through a democratic, dynamic and flexible process to design, build, develop and use socio-cultural and urban spaces, with the participation of mass and political organizations, local government and community, were evinced.
People's demands of leisure and recreational spaces were met, which had a positive impact and was accepted and validated by the beneficiary community which developed a sense of ownership towards the space.
Allowed for the assessment of issues identified at municipal level and current status of public spaces to plan their future improvement.

Images:

Park around the building for natural disaster victims

Boulevard

FACTSHEET 5 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Intervention on the Rincón Naranjo community.

Place: Manicaragua municipality, province of Villa Clara.

Financing Source: State Budget and territorial contribution (1 %).

Description: Rehabilitation of 41 houses of the Rincón Naranjo community.

Baseline Situation: Former school José Regalado Quesada, which was closed due to its dilapidated condition, where around 27 persons lived in 9 houses in crowded and precarious conditions.

PAN area it addresses: Strategic Pillar Housing, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving settlements and houses in precarious conditions.

Involved stakeholders: Government, Housing, Physical planning, Community Architect, MICONS, Power Company, ECOIN 25, Municipal Hygiene and Epidemiology Center, Economy and Planning, Labor Division, Jibacoa Agroforestry Enterprise, political and mass organizations of the People's Council and community.

Main outcomes: The quality of life of community members was improved through the overhauling of the settlement. A total of 41 houses were built and rehabilitated, a small children's park was built, an area was rehabilitated for cultural and recreational amenities and other seating areas for people to relax, water supply was improved, as well as the street lighting system and access roads to the community. Conditions were created for animal husbandry and actions were undertaken to improve retail sale, healthcare and educational facilities.

As the population was engaged in the process, they were aware of the need to care for and preserve changes carried out in their habitat. It was shown that if all stakeholders unite and citizens participate an urban environment can be transformed in a short period of time.

Images:

FACTSHEET 6 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Transforming the habitat of El Granizo community.

Place: Cumanayagua municipality, province of Cienfuegos.

Financing Source: Habitat 2 Project (COSUDE donor).

Description: Combined actions for the solution, with popular participation, of the main problems of the community: lack of toilet facilities and fresh water for consumption, houses are dilapidated and overcrowded.

Baseline Situation: Community made up of 15 precarious houses, there is no pump that pumps the water from the supply source to the distribution tank and there are no conditions to treat it. Neighbors defecate outdoors and wash up in areas that are not suitable for that given the lack of appropriate toilet facilities.
There is social indiscipline, inappropriate relations among neighbors which disrupts harmony, there's poor hygiene and high morbidity diseases are emerging, neighbors have no sense of ownership and lack motivation to solve their problems

PAN area it addresses: Housing strategic line, LT16. Improving precarious settlements and housing.

Involved sakeholders: Government, Habitat 2, Physical Planning, Municipal Housing Division, Maintenance and Construction Enterprise No.6 and community.

Main Outcomes: Quality of life was improved and disparities were reduced among the population of El Granizo rural community. Toilets were built in each of the 15 rooms, and with the help of the Government roofs, doors and Windows were changed and houses' general conditions were improved, they were likewise expanded to avoid overcrowding and fresh water collection and distribution infrastructure was improved.

Images:

FACTSHEET 7 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Strengthening La Sierrita Tile Factory.

Place: Cumanayagua municipality, province of Cienfuegos.

Financing Source: Habitat 2 Project (COSUDE donor).

Description: Provide La Sierrita Tile Factory with all the required infrastructure to ensure the production of several item lines for housing construction.

Baseline Situation: Poor condition of the two existing hydraulic presses due to many years of use, molds for staircase steps, skirting, and others are worn out. They lack technology resources and materials for the proper performance of their activities.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line LT10. Creating conditions to promote the city economy, in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved stakeholders: UCLV, Project Habitat 2, Government, Population.

Main outcomes: Today several housing construction elements like blocks, tanks, joists and slabs are produced.
Project beneficiaries were mostly dwellers from rural settlements and the Turquino Plan as these products were brought closer to their settlements, paying special attention to women and vulnerable groups within said communities.
Working conditions of workers were improved and their salaries were increased. The quality of the block production process was improved as they now have a block making machine, and previously blocks were made manually.

Images:

FACTSHEET 8 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Local production of construction materials in Jatibonico.

Place: Jatibonico municipality, province of Sancti Spíritus.

Financing Source: Habitat 2 Project (COSUDE donor).

Description: Delivery of equipment to local workshops for the production of blocks and others to reduce their production cost and sale price.

Baseline Situation: Local production of construction materials was done manually or with obsolete equipment.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Project Habitat 2, Government and population.

Main Outcomes: Quality of life has been improved with the quality improvement of houses and built housing inventory as a whole. The cost of blocks and other construction materials was reduced and working conditions of workers were also improved.

Images:

FACTSHEET 9 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Local production of construction materials in Manicaragua.

Place: Manicaragua municipality, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor), the central budget and the land contribution (1%).

Description: Provide existing facilities with the required infrastructure to produce several ítem lines for housing construction.

Baseline Situation: Initially they produced bamboo and clay items. Local potentials for local production of construction materials were not fully tapped, excepting brick production.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Government, CITMA delegation, Construction Maintenance Enterprise, UEB # 5, Construction Materials Enterprise and self-employed workers.

Main Outcomes: Housing inventory and social Works were improved, the cost of materials was reduced, the production of wall (bricks and blocks), roofing (joists and slabs) and flooring elements (tiles) was increased and new jobs were created.

Images:

FACTSHEET 10 GOOD NUAC IMPLEMENTATION PRACTICES

Tilte: Strengthening existing local production capacities in the Cumanayagua municipality for the construction and improvement of housing and habitat.

Place: Cumanayagua municipality, province of Cienfuegos.

Financing Source: Habitat 2 Project (COSUDE donor).

Description: Installation and introduction of new technological capacities for the local production of construction materials, assembly of machinery and tools at the "Sandino" production center, which will allow for increased production to meet growing population needs related to housing construction and rehabilitation and habitat management.

Baseline Situaction: Facilities are in place but are unable to solve the housing deficit due to their obsolete technology, and poor conditions of facilities, infrastructure and equipment. Annual housing construction and repair programs were not fulfilled.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Sandino production center, Government and population.

Main Outcomes: The new investment allowed for the increase of production quantity and quality, including: 0.10 and 0.15m-wide concrete blocks for walls; envelop blocks for building envelope; joists and slabs for ceiling and roofs; and furnishings like kitchen countertops, sinks, banisters, floor tiles and paint.
Equipment and work tools were strengthened, production capacity was maximized and working conditions of the production center workers were improved.
These new production lines of construction materials, operating to their full capacity, allowed for the creation of new jobs for men and women, maximize the role of housewives incorporating them into the production process, the development of the municipality and solution of local housing problems, and ensure the sustainability of production in time upon project conclusion.
As part of this process the production of materials for construction, rehabilitation and conservation of houses in the municipality on the basis of the Municipal Development Strategy was increased, working conditions were improved, new jobs were created and workers and technicians were trained.

Images:

FACTSHEET 11 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Producción local de materiales de la construcción en Placetas.

Place: Placetas municipality, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor).

Description: Production of construction elements with greater quality and increased productivity.

Baseline Situation: Low level of production due to the lack of state of the art technology.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Municipal Government, Habitat 2, Local Production of Construction Materials Enterprise.

Main Outcomes: Increased supply of construction materials and elements to the municipality, thus securing products for neighborhoods for the benefit of the community. Productivity and produced elements quality is increased and working conditions are improved.

Images:

Taller UEB Julius Fucik. **Fuente:** https://www.soyvillaclara.gob.cu 8 de noviembre de 2019.

Fábrica de barro en Falcón. **Fuente:** https://www.vanguardia.cu "Recorrió Gobernador de Villa clara industria de producción de materiales de la construcción", 15 de marzo del 2020. Foto. Narciso Fernández Ramirez.

Diversificación e incremento de las producciones. **Fuente:** https://www.radioplacetas.wordpress.com "Garantizan en Placetas producción de materiales de construcción para damnificados de huracán Irma", 8 de diciembre de 2017

Fuente: Archivo DMPF de Placetas.

FACTSHEET 12 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Production of aluminum profiles for the housing program.

Place: Placetas municipality, province of Villa Clara.

Financing Source: Municipal Budget, private and Cultural Assets Fund funds.

Description: Strengthening of the aluminum items industry for the production of doors, windows, and other household items through a public and private business partnership.

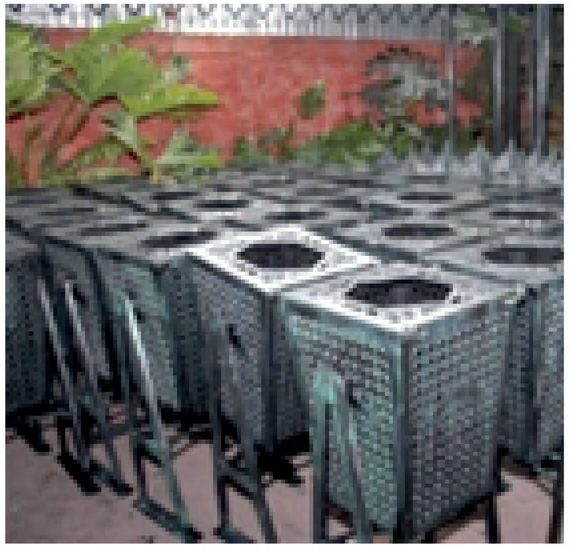
Baseline Situation: People's needs are unmet due to the market deficit.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Government, State-run Enterprise, local craftsmen and producers and population.

Main Outcomes: More than 20 workshops are devoted to this line of work. The raw material potential and coverage for the production of aluminum carpentry for the state housing construction program and for sale to those who self-build their homes has been secured, which allows for the fulfillment of the provincial plan.
The quality of life was improved, items greater durability was assured, new Jobs were created, the implementation of the housing program was advanced and the status and typology of the municipal housing inventory was enhanced.

Images:



FACTSHEET 13 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Production center of construction materials in Aguada de Pasajeros.

Place: Aguada de Pasajeros municipality, province of Cienfuegos.

Financing Source: Habitat 2 and Prodel Projects (COSUDE donor).

Description: Center for the production of wall, floor, and roof elements, water tanks and other furnishings for housing construction.

Baseline Situation: There was a facility from a former ice factory that was out of service in a territory with a housing inventory severely hit by weather events, a housing deficit, heavy reliance on transportation for the transfer of material resources and a high demand of rocks (used for the construction of walls) from its neighboring municipality Jagüey Grande.

PAN area it addresses: Housing strategic line, LT13. Reducing the housing deficit, LT15. Promoting the rehabilitation of the housing inventory and LT16. Improving precarious settlements and housing; and Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Outcomes: Construction Materials UEB, Government, Physical Planning.

Main Outcomes: It has had a positive impact on the quality of life, houses are more comfortable and the image of human settlements of the municipality has been improved. The housing inventory has been increased and improved, special attention was given to vulnerable groups and construction materials and elements sale price was reduced. The municipality housing deficit was reduced in a 21 % in the last few years with the construction and/or rehabilitation of 907 houses in a precarious housing inventory of 4,200 houses.

Images:

FACTSHEET 14 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Rehabilitation of the Coppelia[119] icecream parlor.

Place: Cumanayagua municipality, province of Cienfuegos.

Financing Source: Commerce and Gastronomy Company (Retail Sale and Restaurant Enterprise) (Municipal budget) and territorial contribution (1 %).

Description: –.

Baseline Situation: Rehabilitation of a facility that was out of service, including brickworks, carpentry, technical networks, furniture, treatment of outdoor surrounding areas with the design of a city minipark, including benches and public signs.

PAN area it addresses: Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Government, Municipal Retail Sale and Restaurants Enterprise, Physical planning, Community Architect, Construction Materials production center, non-state entities.

Main Outcomes: Opening of a new high quality service that was not available in the territory, for the enjoyment of the local population and foreign visitors. The urban image was improved and a highly valuable space in the city center was recovered, which also had a significant socioeconomic impact that led to the creation of new job opportunities.

Images:

119 More information available on: http://www.5septiembre.cu/coppelia-de-cumanayagua-sabores-con-sello-lugareno/. Last visited: September 30, 2020

FACTSHEET 15 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Rehabilitation of the Pasaje Hotel.

Place: Cumanayagua municipality, province of Cienfuegos.

Financing Source: Municipal Retail Sale and Restaurants Enterprise and territorial contribution (1 %).

Description: Comprehensive rehabilitation of the hotel, including brickworks, carpentry, technical networks and furniture.

Baseline Situation: The building was so dilapidated that had lost its use value. It was no longer providing service and was the only accommodation facility in the city.

PAN area it addresses: Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Government, Municipal Retail Sale and Restaurants Enterprise, Physical Planning, Community Architect, Construction materials production center, non-state entities.

Main Outcomes: Reopening of the hotel to provide a high quality service for the enjoyment of local residents and foreign visitors. The urban image was improved and a highly valuable city center space was recovered, which had a positive impact that also led to the creation of new job opportunities.

Images:

FACTSHEET 16 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Installation of water pumps in multi-family buildings, water supply sources and healthcare and education facilities.

Place: Aguada de Pasajeros and Cumanayagua municipalities, province of Cienfuegos; Fomento, Cabaiguan and Jatibonico, province of Santi Spíritus; and Remedios, Sagua la Grande, Manicaragua, Placetas and Quemado de Güines, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor).

Description: Installation of water pumps in multi-family buildings, water supply sources and healthcare and education facilities, including the maintenance and repair of huts and power networks.

Baseline Situation: Existing pumps were out of order and the service was not available.

PAN area it addresses: Technical infrastructure strategic pillar, LT17. Fostering the universal provision of technical infrastructures.

Involved Stakeholders: Government, UEB Aqueduct and sewage, Healthcare, Education and Habitat 2.

Main Outcomes: The population now receives water directly in their households and institutions with adequate pressure and the required parameters for human consumption. The water supply service is steady.

Images:

Aguada de Pasajeros

FACTSHEET 17 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Bicycles for sustainable local mobility.

Place: Aguada de Pasajeros and Cumanayagua, province of Cienfuegos; Fomento, Cabaiguan and Jatibonico, province of Santi Spíritus and Remedios, Sagua la Grande, Manicaragua, Placetas and Quemado de Güines, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor) and Canadien NGO Cyclos Nord-Sud.

Description: Bicycles are provided to citizens of those municipalities that are socially and economically vulnerable to improve their quality of life, particularly for them to go to their workplace/livelihood source, emphasizing benefitting women. Additionally a bicycle maintenance and repair shop was created for bicycles given under the Project and for the overall population.

Baseline Situation: Lack of transportation means for people's mobility, non-state animal-traction alternative transportation means (horse carts), pedicabs, and private buses prevail, which have higher prices than public transportation means and therefore have a negative impact on household economy.
Due to the characteristics and size of human settlements in these municipalities, bicycle has traditionally been a very popular and useful mobility solution for citizens and play a very important social role.

PAN area it addresses: Urban Accessibility/Mobility Strategic Pillar, LT20. Contributing to the development of an effective mobility system conducive to increasing productivity in cities.

Involved Stakeholders: Habitat 2, Government, People's Council presidents, Physical Planning, Housing, Construction Maintenance, "Sandino" construction materials production center, Community Architect and highly socially vulnerable citizens, particularly women.

Main Outcomes: Bicycles are a solution to mobility difficulties for household members to go to school, work or their daily dealings. The work of public servants who provide local habitat management services to the population in the community was made easier.
In terms of the quality of life, the mobility of citizens highly socially and economically vulnerable, particularly women, was improved to facilitate their access to their workplaces/livelihood sources.

Images:

Bicycles delivered in Cumanayagua

Bicycles delivered in Jatibonico

FACTSHEET 18 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Biogas supply to La Macuca rural community [120].

Place: Cabaiguan municipality, province of Santi Spíritus.

Financing Source: BIOMAS-CUBA Project.

Description: Implementation of biogas supply systems in rural communities to improve dwellers' quality of life and improving rural habitats through a new decentralized energy supply service. The main components of these systems are: biodigesters, that are part of the sanitation infrastructure, where biogas is produced and stored, distribution networks, that deliver biogas to households and supplementary devices that ensure the quality of the service. Biogas can go long distances with no need of using compressors or other equipment to ensure the sustainability of the system.
At La Macuca community the system is made up of two biodigesters for biogas production, the distribution network made up of underground pipes and accessories, which makes it possible to supply power to 18 houses. Biodigesters capacity allows for further expansion of the current system to benefit a greater number of people.

Baseline Situation: The community lacked the service and animal wastes were dumped in the environment subsequently contaminating the area.

PAN area it addresses: Urban economy strategic line, LT10. Strengthening local economy and LT11. Strengthening economic activity diversity; Technical Infrastructure Strategic Pillar, LT17. Fostering the universal provision of technical infrastructures, LT18. Integrated approach to infrastructure planning, development and management; and LT19. Reducing infrastructures environmental and landscape impacts; and Risks and Climate Change Strategic Pillar, LT24. Apply nature-based methods to reduce vulnerabilities.

Involved Stakeholders: Community, People's Council president, president of the CDR, Project BIOMAS-CUBA and local government representatives.

Main Outcomes: The sanitation technology was modernized with the significant increase in the efficiency of treatment of livestock (pig) waste, which closes the cycle, avoids spillage and reduces environmental impact. The use of water is managed in an integral way, the cycle closes with fertile irrigation. The consumption of electrical energy in each home served is reduced (65% on average) by substituting electricity for biogas and therefore the emission of polluting gases that are generated during the burning of fossil fuels is reduced. The new energy service is formed from a renewable energy source, which is part of the technical infrastructure (Biogas supply networks).
The work of women and men has been humanized and the time for housework is reduced, which allows other tasks such as professional and personal improvement, to participate in social, cultural and scientific activities. The health of people with illnesses and diseases such as asthma, allergies, visual problems, burn accidents and others was improved with the replacement of firewood and oil by biogas. The operation of the system has contributed to the saving of 18 MWh / year. Methane (2 t / year) and carbon dioxide (19 t / year) emissions were reduced, which contribute to mitigating the effects of Climate Change.

Images:

More information available on: http://www.ipsnoticias.net/2018/12/innovacion-local-facilita-redes-solidarias-biogas-cuba/ Last visited: September 30, 2020

120

FACTSHEET 19 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Improvement of communications in case of disasters.

Place: Aguada de Pasajeros municipality, province of Cienfuegos.

Financing Source: CUBA COOPERACIÓN FRANCIA, Government and Civil Defense.

Description: A training and capacity-building center was created for integrated natural disaster risk management.

Baseline Situation: This municipality is often hit by extreme weather events that severe communications with its rural human settlements. People do not know how to cope with these phenomena due to their low risk perception.

PAN area it addresses: Risks and Climate Change Strategic Pillar, LT22. Reducing human settlements' risk exposure and LT23. Strengthening human settlement resilience.

Involved Stakeholders: Municipal government, Education, CITMA, Civil Defense, Municipal Defense Council and Risk Management Group.

Main outcomes: The training of dwellers and leaders of communities exposed to weather event impact risks has been ensured. The communications system with flood-prone vulnerable settlements and communities was improved and their risk perception was enhanced. The six presidents of Defense Councils in the region were trained to develop the Early Warning System, HVR studies of the municipality and all state institutions were updated and their results were mainstreamed into municipal territorial and urban human settlement development instruments.

Images:

FACTSHEET 20 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Participatory integrated diagnosis.

Place: Aguada de Pasajeros and Cumanayagua, province of Cienfuegos and Sagua la Grande and Remedios, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor) and municipal budget (Economic Plan).

Description: Organization of a series of participatory workshops in settlements and communities attended by stakeholders and decision-makers to identify local potentials and integrated habitat management barriers, taking into account elements of equity, participation and social justice in all development dimensions.

Baseline Situation: Outdated diagnoses for the Local habitat development Program and need to update territorial and urban planning instruments.

PAN area it addresses: Strategic pillars: Planning, Housing, Technical infrastructure, Urban mobility/accessibility; and Risks and climate change.

Involved Stakeholders: Government, Habitat 2, Physical planning, Aqueduct and Sewage UEB, Healthcare, Education, Transport, OBE, Culture, Sports, CUM, UCLV, presidents of People's Councils, population.

Main Outcomes: A Baseline situation instrument is now available for the design and update of the EDM and territorial and urban planning instruments. As a result of this diagnosis, households and institutions of the Aguada de Pasajeros were provided steady water supply, these are some of the palpable impacts on people's quality of life.

Images:

Talleres Aguada de Pasajeros

Talleres Cumanayagua

Talleres Sagua la Grande

FACTSHEET 21 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Increased production of fruits, vegetables and grains.

Place: Manicaragua municipality, province of Villa Clara.

Financing Source: Territorial contribution (1 %).

Description: Increasing the production of fruits, vegetables and grains using renewable energy in an agroecological farm of the Andrés Chongo CCS, of the Mataguá People's Council.

Baseline Situation: The 6-hectare farm's production yields account for only 40 % of its full production potential. They are mostly affected by the lack of rainfall and fuel to meet crop irrigation requirements. In addition, electric power has very low voltage which makes it very difficult to provide electric light and pump water to 6 households. This farm has semi-mountainous terrain, which facilitates runoff and contributes to lans erosion. Soils have a sandy texture; therefore they should be frequently irrigated to reduce water particle size and achieve desired outcomes.

PAN area it addresses: Financing Strategic Pillar, LT8. Strengthening municipal capacities for economic management and endogenous resource development and Urban Economu Strategic Pillar, LT10. Creating conditions to foster city economy in line with the national and global economies and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Government and farmers of the Andrés Chongo CCS of the Mataguá People's Council.

Main Outcomes: Agricultural production yields were increased to 90 % of its production potential. Six hectares are now under microjet irrigation and the main networks have been buried, a solar panel and a pump were installed for crop irrigation and ensure power and water supply to six households. A biodigester, is used by two families and their household needs are met. A solar panel and a pump were installed to ensure water supply for crop irrigation and power and water supply for six households.
Areas where fruits, vegetables and grains are grown will be restored with intercropping, mostly sweet potatoes during the cold season harvest to ensure at least five sweet potato weevil-resistant varieties, given the morphological characteristics of this root vegetable and depth at which it develops. A reservoir of big-headed ants, which are very susceptible to the lack of moisture will be created to contribute to the integrated management of that weevil considering the shortage of high yield clones. Efforts are ongoing to complete the farm biodiversity in transition, Project implementation should contribute to declaring it Ecological, which is the highest category granted by the National ANAP Board.
The yucca harvest shall be ensured with short, medium and long cycle clones that are grown in November and December, with frameworks that allow for the use of ox-driven ploughs to ensure year-long harvests by 7-9 month stages and eventually of 12. Workshops will be organized to prove that it is possible to have a genuine crop scaling in harvests, from the farm and with the creation of a seed bank. This good practice is promoted to extend it to the entire CCS considering its farmers are wonderful producers but lack science and technology advances.

Images:

FACTSHEET 22 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Increasing the production of sweets for the population.

Place: Placetas municipality, province of Villa Clara.

Financing Source: Prodel Project and territorial contribution (1 %).

Description: Introduction of technologies in the production of sweets, encouraging local production and sale. Two container sealers with a capacity of 1,000-5,000 mililiters, an industrial mixer, a refrigerator, a freezer and an industrial ovenwere given for the production of sweets.

Baseline Situation: The factory was closed due to its obsolete technology and lack of raw materials.

PAN area it addresses: Financing Strategic Pillar, LT8. Strengthening municipal capacities for economic management and endogenous resource development and Urban Economy Strategic Pillar, LT10. Creating conditions to Foster city economy in line with the national and global economies and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Government, Prodel, producers, quality technicians.

Main Outcomes: Negotiation rounds were organized for the sale and contracting of products, as well as for encouraging the establishment of production chain links among sectors. The production and its quality were increased (more than one ton/day), product image was improved as it is now packaged and not sold in bulk (although part of it is still sold in bulk per request of the population) at cheap prices.

Images:

Source: https://radioplacetas.wordpress.-com/2018/11/21/recibe-fabri-ca-silverio-de-placetas-nuevas-tecnologias

FACTSHEET 23 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Fingerling farming for the fish meat processing center.

Place: Placetas municipality, province of Villa Clara.

Financing Source: Fisheries Enterprise, private capital and territorial contribution (1 %).

Description: Agreement between Pescavilla and private fingerling farmers to rear fingerlings to the adult stage in ponds to ensure raw materials for the fish meat processing center.

Baseline Situation: The fish meat processing center lacked the required raw material to produce food; decreased supply to the detriment of the quality of life of the population.

PAN area it addresses: Urban economy strategic line, LT10. Creating conditions to improve city economy in line with the national and global economy and LT11. Strengthening economic activity diversity.

Involved Stakeholders: Private fish farmers, Pescavilla Fisheries Enterprise, Government and Local Development Group.

Main Outcomes: This experience is ongoing; several rearing ponds have been recovered. A positive impact is estimated for the high and low income households because this production will contribute to diversify the availability of food products for people in Placetas and for Cubans in general and wastes will be recycled for animal feed.

Images:

Fish meat processing industry. Source: https://www.cmhw.cu "En Placetas desarrollo local para multiplicar peces", photo by: Rodolfo Blanco Cué

Fuente: https://www.vanguardia.cu 16 de mayo del 2020 "El fascinante mundo de cosechar peces", foto: Francisnet Díaz Rondón.

FACTSHEET 24 GOOD NUAC IMPLEMENTATION PRACTICES *Title: Creation of local training and capacity-building centers (CLOC) on habitat and housing.*

Place: Aguada de Pasajeros and Cumanayagua municipalities, province of Cienfuegos; Fomento, Cabaiguan and Jatibonico, province of Santi Spíritus and Remedios, Sagua la Grande, Manicaragua, Placetas and Quemado de Güines, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor)

Description: Creation of training and capacity-building centers in ten municipalities of Central Cuba with technical personnel trained to train decision-makers, officials, specialists, technicians and population in topics related to habitat integrated management as well as in services linked to Access to subsidies, credit policies, among others. The ten centers are connected into a Network.

Baseline Situation: Weaknesses and lack of preparation were identified among technicians and the population to ensure the success of habitat-related formalities, particularly those linked to housing.

PAN area it addresses: All, as it provides training on all areas of knowledge.

Involved Stakeholders: Municipal government, Physical planning, Communal Services, Justice, CUM and population.

Main Outcomes: Working conditions of CUM professionals were improved. The quality of the educational process was improved as new technologies are now available. Academic development is encouraged, learning management and the development of skills are improved. Links with municipal institutions, enterprises, centers and social stakeholders are strengthened. A work methodology for training, guidance, information and advisory at local level has been developed and made available, which facilitates the dissemination of the work and favors that all activities undertaken there are interactive.

A significant number of persons have benefitted from the assistance provided in the preparation of the required documents to Access services like bank credits and subsidies, with greater representation of vulnerable groups like single mothers, mother with three or more children, disabled persons, elders and rural population.

In Aguada de Pasajeros, 265 disadvantaged households (728 persons) were benefitted with subsidies, which accounts for 27% of the total (2,683). A total of 1,184 households were benefitted by the credit policy, 28 % of the precarious housing inventory. Over 554 stakeholders, decision makers and member of the population of the municipality, 192 women, 147 youngsters and 57 leaders were trained.

Images:

CLOC Aguada de Pasajeros

CLOC Cumanayagua

CLOC Jatibonico

FACTSHEET 25 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Strengthening of housing paperwork processing offices.

Place: Aguada de Pasajeros and Cumanayagua municipalities, province of Cienfuegos; Fomento, Cabaiguan and Jatibonico, province of Santi Spíritus and Remedios, Sagua la Grande, Manicaragua, Placetas and Quemado de Güines, province of Villa Clara.

Financing Source: Habitat 2 Project (COSUDE donor)

Description: Means and resources were given to expedite housing paperwork processing services to the population, namely: a computer, a printer, waiting room furniture, and for service providers, memory sticks, paint, acrylic board, office supplies, water fountains, urban regulation dissemination materials, among others.

Baseline Situation: Paperwork processing offices are in regular and poor conditions and lacked resources and means to provide their service to the population.

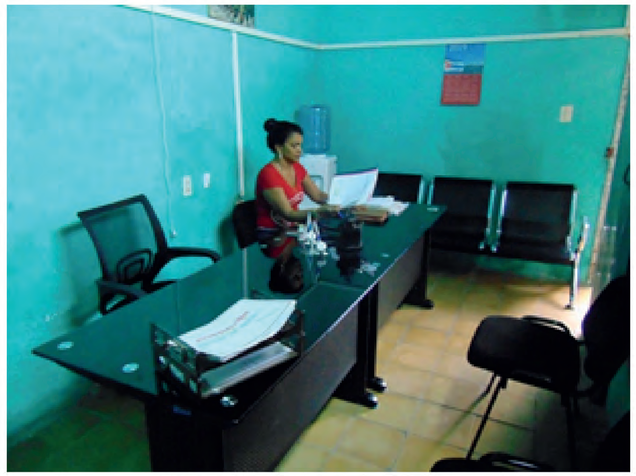
PAN area it addresses: Legislation and Housing Strategic Pillars.

Involve Stakeholders: Municipal Government, Habitat 2, CUM, Physical planning and Paperwork processing offices.

Main Outcomes: Working conditions are improved, paperwork processing is expedited, which allows for the assessment of actions impact and people's level of satisfaction. Urban regulations are disseminated to encourage compliance thereof.

Images:

Housing paperwork processing office of Jatibonico



Housing paperwork processing office of Manicaragua

FACTSHEET 26 GOOD NUAC IMPLEMENTATION PRACTICES

Title: Inter-Municipal Coordination Table.

Place: Manicaragua municipality, province of Villa Clara.

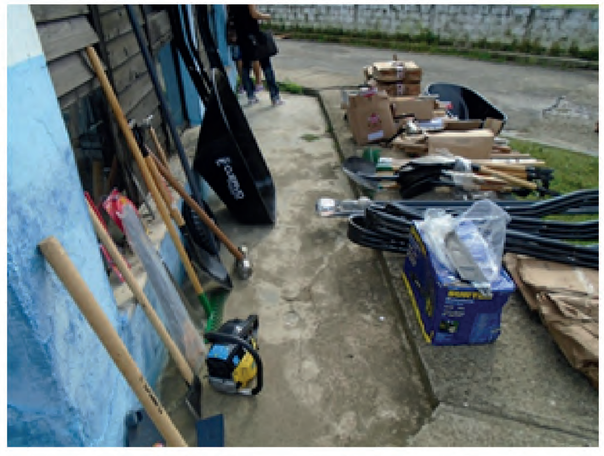
Financing Source: Habitat 2 Project (COSUDE donor)

Description: The Inter-Municipal Coordination Table was created under the agreement signed by the municipal governments of Manicaragua, Fomento and Cumanayagua, to address common issues related to rural mountain habitats and mobility that have an impact on people's exodus, aging and community environmental degradation. Among aspects to be addressed are the brigades of traveling laborers who belong to local entities of the Ministry of Agriculture (MINAGRI) and respond to the Municipal Communal Services that undertake maintenance, reparation and rehabilitation works of inter-mountain roads; but lack the required means to fulfill their duties.

Baseline Situation: Dwellers have difficulties to move around due to roads technical conditions; lack of Access to quality water, lack of toilet services, evacuation as well as waste treatment solutions and power supply. There are conflicts related to the lack or insufficient basic habitat services (retail sale, cultural, recreational and healthcare services) and houses are in poor technical, constructive and functional conditions.
Lack of tools and other required resources for the inter-mountain road maintenance and rehabilitation brigades. A tool kit was handed out including: small hoes, wheelbarrows, saws, chainsaws, pickaxes, shovels, files, etc. to improve working conditions of these brigades.

PAN area it addresses: Urban mobility/accessibility strategic pillar, LT20. Contributing to the development of an effective mobility system that improves productivity and Housing Strategic Pillar, LT16. Improving precarious settlements and housing.

Involve Stakeholders: Municipal Communal Services Division, Municipal University Center, Local Habitat Committee, MINAGRI and Municipal administration council.

Main Outcomes: Installation of capacities for the use of tools and methods that increased the productivity of inter-mountain road maintenance and rehabilitation brigades.
Mobility and accessibility to habitat services for the population were improved in remote mountainous areas.
The organized community was empowered with the creation of local neighbors' committees that contribute to supervise and support the work of Road maintenance brigades

Images: