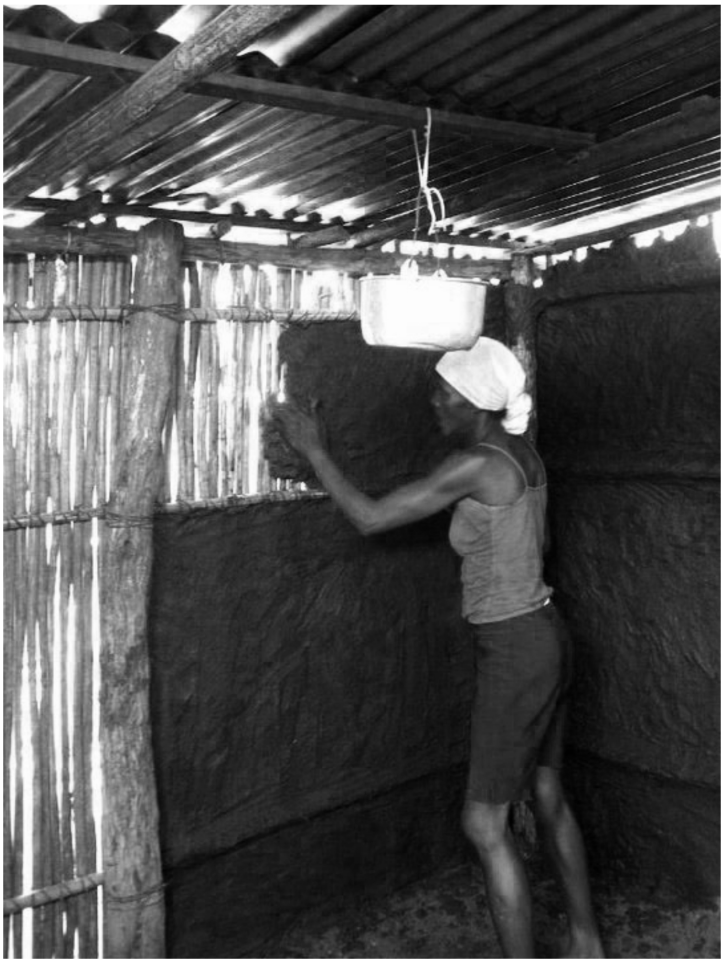
Maria del Pilar Mejia Echeverri
mejia.mdp@gmail.com



Community involvement in built heritage management within the colombian coffee cultural landscape

Participación de comunidad en la herencia construida del Paisaje Cultural Colombiano.

Primera versión recibida el 3 de mayo de 2012,
versión final aprobada 11 de septiembre del 2012

Resumen.

Este artículo busca resaltar el valor de las técnicas constructivas locales como herramienta de desarrollo del Paisaje Cultural Cafetero y enfatizando en la importancia de la participación de la comunidad en las políticas culturales, como clave para lograr la sostenibilidad y mejorar la calidad de vida de las personas en los países en desarrollo. Esta investigación nace de la preocupación por la creciente desaparición de edificios históricos en la ciudad de Manizales, así como por el abandono de las técnicas constructivas tradicionales a razón de nuevas tecnologías no aptas al contexto local. Este documento analiza la reglamentación relativa a los Paisajes Culturales; valora las técnicas locales y finaliza con una serie de propuestas con miras al desarrollo de dicho territorio.

Palabras clave:

Comunidad, sostenibilidad, bambú (guadua), técnicas de desarrollo local.

Abstract.

This paper intends to reflect upon local building techniques - built with timber and bamboo - as a tool for sustainable development within Colombian Coffee Cultural Landscape and to emphasize the utility of community involvement in multidisciplinary based cultural policies as a key to achieve sustainability while improving quality of life in developing countries. This research was motivated by the growing disappearance of several historical buildings in the city of Manizales and the vanishing of traditional building techniques in the hands of non-adapted modern technologies. This paper analyzes regulation concerning Cultural Landscapes; values local building techniques from several perspectives; and ends with a set of proposals looking forward for the benefit of culture and development of this territory.

Keywords:

Community, sustainability, bamboo (guadua), local building techniques, development.

Para citar este artículo: (Mejía 2012). **"**Participación de comunidad en la herencia construida del Paisaje Cultural Colombiano". En: Revista Académica e Institucional, Arquetipo de la UCP, 5: Páginas 17-33

*Community involvement in built heritage management within the colombian coffee cultural landscape**

Participación de comunidad en la herencia construida del Paisaje Cultural Colombiano

Maria del Pilar Mejia Echeverri**
mejia.mdp@gmail.com

Introduction and Purpose.

Several academics have largely studied and inventoried historic, technical and formal aspects of local architecture, but still, heritage has touched a level of degradation that we could qualify of perturbing. The whole rural and urban side of the city is facing tangible human threats - implosions, replacements, and abandon of historical buildings -. Furthermore, as state in this document, there is a perceptible generational rupture in which concerns given value and knowledge about local heritage. Different studies (Robledo 1993, Muñoz 2010) have highlighted negative impact that 'The cement era'[2] had over local built heritage, along with people's desire of transforming their houses up to date, enhancing this technical-cultural rupture.

However, heritage faces today new challenges and enjoys new management methodologies. All around the world new experiences show how much heritage conservation and development are linked and, Colombian Coffee Cultural Landscape (CCCL on the text) managers affirm that CCCL is assumed as a tool for development for the region's inhabitants, and, mainly for economically vulnerable communities and country side people. Consequently, this paper intends to reflect upon local building techniques - built with timber and bamboo - as a tool for development within CCCL, more

* El artículo es resultado de la investigación denominada "El Paisaje Cultural Cafetero y las técnicas constructivas locales, fuente de conocimiento y herramienta de desarrollo". realizada entre julio de 2011 y octubre del 2012, en el C-STAR Centro de desarrollo tecnológico para la sostenibilidad y la competitividad regional Yopal, Casanare. Grupo de investigación Medio ambiente y cultura / Scientia Karayuru. Proyectos de desarrollo en cultura, medio ambiente y territorio.

** Arquitecta de la Universidad Nacional de Colombia, Sede Manizales. Luego de haber trabajado en el campo de la arquitectura vernacular, realiza estudios de post-grado en Europa especializándose en la construcción con madera y materiales derivados en la Universidad Henri Poincaré, en Nancy, Francia. Obtiene su título de Maestría en "Gestión de Paisajes Culturales" en las universidades Federico II de Nápoles, Italia; Universidad de Stuttgart, Alemania y Universidad Jean Monnet, Francia en 2011.

[2] 'The Cement Era': Comprised between 1940 and late 1970, moment which main material used for building was cement and almost complete abandon of wood and bamboo existed in.

specifically for the city of Manizales. From the foundation of the city, to nowadays, these techniques have not only been used to build up urban history through its most significant buildings, but more important, they enclose seismic, economic, technical and environmental advances, deserving to be pointed out and re-adapted to respond to present and future needs. Anyhow, the continued disappearance of significant buildings may mean that something is missing within the process management of heritage and that all the scientific and technological values have not been spread enough within community, so this destruction process can be stopped.

Community oriented cultural policies is been promoted and applied with force during the last decade all around the world. In Latin America, recent academic meetings have highlighted specialists' questioning about finding a common way to communities within conservation of cultural assets. At a local level instead, the main part of the academic and public sector are still practicing the 'Top down' methodology, which leaves scientific knowledge in a pretty high-non reachable level for common people.

This research hypothetic response to the pointed problematic is based on active community involvement in the revaluating process of local technical-cultural values. It emphasizes the crucial need of implementing interdisciplinary based cultural policies, as a key to achieve sustainability while improving people's quality of life. In consequence this perspective, allows every stake holder – political, academic, public, private, professional, etc.– to understand what their responsibility degree is and how can they intervene in the process.

Design and Methods.

Knowing that the main objective of the research was to render explicit the needing to (re)-valuate local technical heritage within the Colombian Coffee Cultural Landscape and to outline the main roll of community through the process, a multi-level research methodology was implemented. Formal documentation and observation processes were complemented with open spaces of discussion with local community, managers, experts and academics. To this purpose, qualitative and quantitative methods were used in different stages of the research.

(1) First of all, an accurate study of national and local legislation relative to Cultural Landscapes, Cultural Heritage, and Built Heritage was effectuated. The aim of this stage was on the one hand to understand and highlight the influence that could have existed between international declaratory and conventions and national cultural policies evolution. On the other hand, it was fundamental to comprehend whether local legislation was coherent and prepared to face the historical

[3] Top down: opposite of community involvement - 'Bottom up'- practice. In top down methodology which experts give every directive of intervention of assets; the bottom up instead, highlights the importance of stake holders as creative and active part of the process of diagnosis and management of a property. Carolina Castellanos, in Sharing Conservation Decisions Seminar; Rome, 2011.

moment regional heritage was living – with the declaration of its Outstanding Universal Value by UNESCO- and to point out found strengths and weakness about it.

(2) Finally this first part included a general overview to municipality's development projects, in order to understand how multidisciplinary work is taken into account when talking about social housing, culture and education strategies and how much community is allowed and encouraged on participating in this process. (2) 40 questionnaires were administrated in the second stage, equally distributed between city's stake holders: professors and researchers, local administration, private builders/designers and community – between 18 and 70 years old. Consequently, data obtained could be quantitatively analyzed, considering (a) given importance to constitutive elements of the urban landscape and built heritage; (b) given values to traditional/contemporary local architecture; (c) participation in different cultural spaces and (d) knowledge –or not – of some regulations concerning the protection of the built heritage.

(3) Finally a set of proposals is described, based on examples of best practices and looking forward to fill the gaps founded in the two first stages of the research. It is important to note that this stage remains open to implementation and it is not possible to present assessment results.

Results.

CITY CHARACTERIZATION.

Manizales was the most important economical and industrial centre for coffee industry during late XIXth and beginning of XX th century in Colombia, having great growing until 1960's. It is also at this moment that the territory that we know today as CCCL starts to consolidate.

Colons built first buildings with earthen architecture, even though this technique made buildings not flexible enough to respond to seismic demand (Suarez 2010). Consequently, earthen architecture starts to be transformed into a mixed architecture, which gives birth to structures which first floor was built with earth and upper floors with bamboo and wood frames. This, started to be known as “Temblorero” style, honoring their excellent response to earthquakes, which was good enough to make people forget the risk of the episodes, *“no one get to worry anymore because of seism”* (Historic archives, Robledo 1993, in Suarez 2010).

During early XXth century, coffee industry starts to report big quantities of money to the city, allowing people to travel to Europe, which at the same time, is reflected in the appearance of new aesthetics in architecture, more detailed buildings and new materials to be implemented, as metallic and concrete composites. Important technical and urban adaptations were needed so technological and aesthetics principles coming from Europe could be adapted to local architecture. Wood and bamboo frame structures with exteriors

finishing in metal and concrete, responding to aesthetical canons of neoclassical architecture, is what is locally known as 'Republican architecture.' This is the architecture that is going to define consolidated urban centers identity, transforming old times temporary architecture in monumental elements of the urbanization process.

Nevertheless, during the XX th century, traditional building techniques will go from their apogee, to a 'death' moment between the 40's and late 70's, during which concrete took advantage in people's imaginary as synonym of modernity, technology and wellness. Until 1930's administration building, churches, train stations, aerial cable transportation stations, have not only been built with local materials, but served as laboratories for introducing prefabricated systems in building and creating higher and larger structures. European and local architects and engineers developed techniques that had to wait until 1980's, so newly professionals on the field get to be interested in again. That is why it is undeniable that last 30 years have meant a new beginning for technical-heritage, but there is still a generational gap, a nearly forty years gap, that needs to be fixed in order to recover, preserve and potentiate the immaterial heritage hidden in built assets.

CURRENT LEGISLATION RELATIVE TO CULTURAL HERITAGE.

One of the biggest steps that have been undertaken during these last 30 years is the launching of a chapter concerning wooden and bamboo buildings within the national Normative of Seismic Resistance (NSR)-98 by the 52th decree of 2002. Since then, buildings that are built according to local building techniques -in Bahareque-[4], and following this regulation are certified as resistant enough to respond in case of earthquake.
[5] Moreover, when the normative was updated in 2010, a new chapter was added to this normative, which concerns not only the Bahareque buildings, but any building which structure is made of wood and bamboo, and, which includes also rules for materials treatment prior to execution, new structural calculus and fire regulations, among others. This, remains as maybe one of the biggest opportunities that scientific and academic world, has agreed to traditional knowledge –immaterial heritage- looking forward to be implemented into contemporary building technologies.

Yet, it is important to underline that in Colombia legal status given to immaterial heritage and/or to living heritage is a pretty recent process. It is only from 1997 that national definition of culture is presented, highlighting the importance of *"… spiritual and material, intellectual and emotional characteristics of a society …"* [5] Moreover, it was recently, in 2008, that *"…tradition,*

[4] Bahareque: Denomination of wood and bamboo frames building technique, either finished with wood, cement, metal facades.
[5] Taken from: 'Ley 388/97.'
[6] Law 1185/2008, modifying the article 4/97.

ancestral knowledge, cultural landscape, costumes and habits….[6]*"* have been recognized as components of the National Cultural Heritage. Nonetheless, the way to achieve this, has not always been straight morover internal timing for culture was dissimilar to the international one.

Even if Colombia joined UNESCO as State Party in 1947 cultural institutions took longer to be created. A decentralized public organism –COLCULTURA (Colombian Institute of Culture) - was formed in 1968, to manage cultural process at a national level; but it is not until almost thirty years later, in 1997, that the Ministry of Culture is launched. This may be one of the factors to the lack of prominence of culture and heritage in the national sphere yet today, and a reason to explain why in people's imaginary heritage definition is more linked to Economical possessions, than collective cultural assets (See figure N 1).
On the other hand, directly concerning the architectural heritage, it is also in 1997 that an important instrument is born: *"Law 388/97 for territory ordinance."* The aim of this law is to control urban planning under the perspective of preservation, conservation and adequate utilization of heritage assets either built or artistic. This law turns out to be also the major guideline for intervening and/or modifying cultural heritage properties at a local level, through the conformation of a specialized committee which must create a development plan and update it every time local administration is renewed. Finally, this instrument is reinforced by the appearance of the PEMP (Special Plans of Management and Protection) – of the article 14, decree 763 of 2009. The main objective of these plans is to lead to community appropriation of heritage and cultural assets, leading projects on precise topics of common interest.

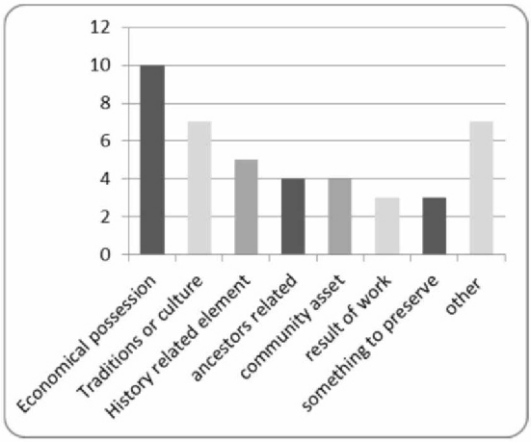


Figure 1.
Community perception of heritage
"What does heritage mean to you?"

COMMUNITY INVOLVEMENT IN HERITAGE MANAGEMENT.

According to the exposed tools, community should find a suitable place within heritage management. Even though, in Manizales, within the implementation of the 388/97 law also called POT (Territorial Ordinance Plan), community representatives do not have enough weight when making decisions about local assets management. An example of this may be the way in which the directional organ of Physical-Cultural Heritage of the city is

composed. There are nine members i.e. (1) the city Mayor; (2) the director of urban planning department –previously chosen by the mayor-; (3) the director of Culture and Tourism Institute –previously chosen by the mayor-; (4) municipal education director –previously chosen by the mayor-; (5) public infrastructure director –previously chosen by the mayor-; (6) one member of National Monuments Council, pointed by the mayor; (7) a representative of city architecture schools, pointed by the mayor; (8) a representative of city commerce, pointed by the mayor; (9) a representative of assets' owners, pointed after the publication of a decree by the mayor.

In other words, the system is built to be managed by a particularly small sphere of people. It is also conditioned to the sense of citizenship, democracy and culture of the main personality of cultural organ – the mayor in this case -, and, last but not least, it is difficult to access for local communities. Laws and regulations like POT or PEMP have been created to share responsibilities and benefits within cultural assets management, but there is a great majority that doesn't even know about their existence, which could be seen as a failure within the heritage integrated management system. As a result it is not a surprise to find out that local community qualify itself disappointed of local heritage situation and management, but still motivated to participate within an eventual re-discovering/re-implementation process. (See Figures 2; 3)

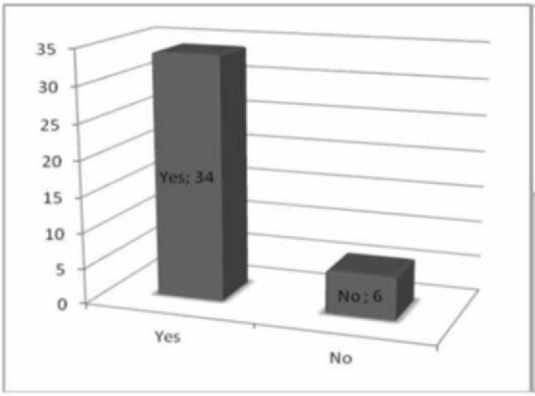


Figure 2.
Community perceptions of heritage “Do you consider Traditional architecture representative and important to the city?”

Community involvement	Yes	No
Do you know any kind of local cultural/built heritage promotional activity?	75%	25%
Have you participated on any of them?	25%	75%
Would like to share what you know about cultural/built heritage assets?	80%	20%

Figure 3.
Community involvement in Heritage Management.

Today, several experiences proved that, when community participates to heritage management and conservation processes, interventions are more authentic. Even The Nara Document on Authenticity affirms that *"Responsibility for cultural heritage and the management of it belongs, in the first place, to the cultural community that has generated it, and subsequently to that which cares for it".* If local authorities, managers and experts respected this premise, and, consulted community in a systematic way before starting any work on a property, more respectful interventions could be achieved, without mentioning the possible increasing on using local materials, the respect of religious/spiritual principles, or still, facilitating community appropriation of the assets. In other words, sustainability is more achievable when community is involved.

Within this case study, the foresee method for re-adapting and implementing traditional knowledge, is the "Bottom up" system, in which community stops being just the receptor of experts proposals, but starts being active part of the creative process, while developing new skills within it. The scope is to implement "Cultural mapping[7]" mechanisms in every intervention, so people may express their interests, skills and priorities face to local heritage. In the short – middle term Urban Memory Centers[8] are to be developed, as the first step to switch on the system, while people involvement and awareness about local history and heritage can be raised. Then, in a long term, the ideal is to launch a project that may involve traditional building techniques with technological research, for the restoration and conservation of the built properties, while implementing sustainable local economies.

In what follows the attention will be focus on exposing main course of action of the forecast proposal.

SUSTAINABILITY – HERITAGE AND DEVELOPMENT.

"Education for development in cities and territories contributes to the balance between country side and urban side, to the reduction of poverty, as well as to social integration of vulnerable communities" (Collin, 2008.) In this order, interdisciplinary research provides a holistic perspective of the case study. Furthermore, while providing a wide range of possible responses to the sustainability question, a heterogenic group of experts, may recognize diversity of strengths and constraints in a project, while minimizing the possibilities of proposing unrealistic plans. Including the community as an active stake holder is one of the ways to achieve real interdisciplinary actions.

On the one hand, it is mandatory to consider that, a big quantity of what we call today heritage properties, were built long time ago, following different principles of energy consummation, economical systems and technological possibilities. Nonetheless, today the challenge is to find management methodologies that are coherent with and consider sustainability

[7]Cultural Mapping : Creation and production of physical elements, diagnosis documents, maps, charts, interviews, designs, videos, websites, etc. as a result of communitarian work spaces. i.e. workshops supported by a multidisciplinary team.
[8]Urban Memorial Centers: full description further.

and preservation of heritage assets without taking an anti-development position. i.e (1) rational use of natural sources, (2) waste production reduction, (3) local activities promotion and (4) opportunities to meet social equity (Ramos/Mendes da Silva, 2011). Urban centers, on the other hand, as the scenario where individual assets exist, may think about re-densification, enlarging public spaces surface, reducing transport-mobility distances, protecting built heritage, regulating waste generated by demolition, and, above all, inviting local communities to inhabit consolidated centers instead of expanding the city (W. Ndoro). i.e. Lisbon, Porto (Portugal) and Oran (Algeria) are examples of cities that have implemented strong politics on re-occupying consolidated-historical centers, while restoring heritage providing new working opportunities and intensifying social mixture and commercial activities.

In the case of Manizales, both reflections are valid, if we consider that traditional building techniques are most of all implemented on consolidated historical centers throughout the city. Moreover, among the diverse elements that compose CCCL, stake holders (local community included) recognized local architecture as the most important asset on it, (See Figure No 1.4). That is why, the proposals below embrace community as an active stakeholder, where citizen's participation goes from audience task, to civil watchers. Even though these are not easily implemented proposals, they demand strong politic compromise and need so much cohesion within stake holder, based on a clear range of benefits not only for local administration, but for citizens and institutions.

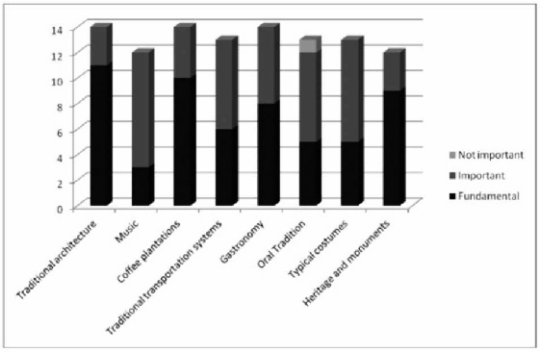


Figure 4
Community assessments of CCCL components.

Here below a brief review of local building techniques from the basic aspects of sustainable development, territory/environment, economic/technical, social/human. From technical perspective, Bahareque has been tested by nature several times –seism, fires – since the city foundation, showing its strengths and weakness. System great flexibility and lightness in case of earthquakes are highlighted; in diversity of constructions guadua has been resistant and strong until the point of colloquially being called the natural steel. Besides, no intervention over terrain is needed for building emplacement, even when building in high gradient lands, which is most advantageous to reducing times and costs of construction and reducing impact on the field. Furthermore, traditional

techniques have also been used for post-disaster emergency housing in recent past – i.e. near 1999 after 'Eje Cafetero' earthquake of 6,4 degrees on the **Richter magnitude scale** -, confirming the validity and utility of its implementation. These episodes meant as well the departure point for specialized research in order to conceive regulations as the NSR-98/10 explained before. At last, technical schemes seems to be in the way to mechanization, while diverse research groups[9] are testing prefabricated elements from bamboo, which show optimal resistance to efforts, and give an idea of new industrial/economical potential within the field.

Also on the economical field, it is important to point that it exists already a non-accountable amount of built squared meters in urban and country side of Manizales and the whole coffee region. In the Manual of Conservation of Bahareque and Wooden Built Houses (2008), architect J.M. Sarmiento states that "*… Our society doesn't have money enough to replace this architecture for a new one… we must save it to offer social housing for the big quantity of people that are out there claiming for it."* Moreover, the cost of new properties built squared meters in wood and bamboo is 30 to 50% lower than that of concrete and masonry. Thus international organizations like INBAR (International Network for Bamboo and Rattan) have clear scopes on the developing improving life quality for bamboo producers' communities all around the world, while supporting local industries based in traditional know-how, as well as reducing communities' vulnerability. All of them seem completely feasible in Colombia, particularly in the coffee region, where bamboo grows within coffee plantations harmoniously without affecting neither productive nor environmental issues. This principle could be a clear connector between urban and country side, providing more working positions through bamboo research, production, selling and transformation and building process not only with it, but other natural materials.

Last but not least, concerning the environmental aspect of building with traditional techniques, the pretty first benefit would be CO2 emissions reduction, whilst construction field is responsible for the 25% of CO2 of it worldwide. It is a fact that building with local material reduces transportation environmental charge to lowest levels, but when building with wood and bamboo, we are in fact using a massive carbon dioxide sink. For instance, wood composition counts on 50% Carbone –plus 43% Oxygen, 1% Nitrogen and 6% Hydrogen -; otherwise, 1M3 wood represents 1 T CO2. In addition, bamboo has shown to be more efficient than wood and, certainly stressed by its fast growing, it can stock until 30% more CO/M3 than wood, according to the genera[10]. Furthermore, guadua plantations protect water resources, control erosion, incorporate fundamental organic materials to the soil and constitute diverse flora and fauna habitat.

[9] UNIANDES research group on civil engineering.
[10] INBAR December 2010 repport.

In order to enhance the exposed values in the urban and the country side, particular interventions are proposed, based on the active participation of persons, not as individual human beings, but as social actors and multipliers of skills and knowledge. Diverse examples of best practices have been taken into account during the research work, as well as it was possible to identify great potential of different organizations within the city and the region, especially those specialized in local risks studies, research centers and historical documentation. For instance, the Hillside Guardian[11] program through which the municipality have been working with local universities on the subject of hillside's protection for about ten years, in which single mothers from low-income communities, have engaged themselves in a full-time job shaping and protecting urban hillsides. They actively participate in workshops at the university labs and spontaneously share their knowledge within their communities. In consequence, optimal results for risks reduction have been observed, while the citizens have learned to welcome and appropriate the project themselves. In addition, in local imaginary nowadays, there is a particular preoccupation about natural risks, city vulnerability and resilience. This is a successful example of science and community working together at a local level.

On the other hand, several social housing projects were launched during the last 20 years of XXth century, by National University architecture school and/or by municipality housing institute, searching to construct mechanisms of appropriation of local techniques at the service of poverty reduction. The most well preserved examples of architecture built with local materials, are those[12] in which construction, community had actively participated, creating at the same time bigger appropriation, respect and care sense for them. On the opposite, those projects that didn't involve community within the conception and/or building process, have started to vanish; buildings have suffered big metamorphosis and today it is pretty rare to find standing examples of what was built then. Anyway, those cases, served to show that integrated management and interdisciplinary work, between citizens, municipality and academy could bring positive and tangible results.

In that order, a methodology for systematizing and spreading collective memory was analyzed; the project is called Urban Memory Centers, project that has been implemented by FEM[13] in other cities in the country with great success. Main actors of this program are elderly people living in old people's home, who are willing to share their reminiscences about urban history and evolution with youth. They will walk through the city/neighbor collecting memories and, together with the program performers, will discuss, tape, photograph and systematize the results. Today, itinerant expositions,

[11] Guardianas de la Ladera: Municipality Project in partnership with the National University of Colombia.
[12] Divina providencia project. Florez Gilberto UNAL 1996.
[13] FEM Foundation For Multidimensional Education. www.femcolombia.com

catalogues and websites are launched using this information, while aged people's knowledge and urban memory is better appreciated. Furthermore, there are studies to mesure the impact on the mental health of the adults involved.

Summarizing, it would seem that, local architecture and traditional building techniques might be an ideal scenario to implement interdisciplinary-community involved management systems. Thus, looking forward to conceive a coherent methodological action frame, the following are the concise proposals resulting from this research work:

(1) Previous mapping: with the aim of evaluation the level of engagement of every stake holder, analyzing needing, budget, existing know-how and infrastructure. As a result it is attended to create informative workshops, radio and television spaces and technical indicators of the state of the art. (2) *City memory centers*: First step would be launching a common website for municipality's cultural-heritage initiatives, or one that may integrate what already exists. Besides, with the participation of city inhabitants it is envisaged to produce short videos of city's history reconstruction based on their testimonies. Elderly people would be fundamental to this action, while young community would be necessary for providing technical assistance to production and diffusion. (3) *Heritage assets rehabilitation*: Posteriori to the creation of partnerships between local universities, technology centers, private investors and owners, a 'First Employment' program is to be created: The aim is to engage young professionals and technicians on rehabilitation projects, reducing taxes either for the professionals implementing the techniques, as well as for the owner of the building. It will be crucial at this point to engage the "Escuela Taller"[14] technical support and alumni. Finally, (4) *Social housing program*: Considering that initiative No3 will serve to raise public awareness of the importance and utility of local heritage, it shall be feasible to start a program that allows to supply the lack of social housing, while implement new building technologies based in local materials and traditional techniques in a more sustainable way, while applying similar taxes or financial advantages to boost the implementation of those.

Conclusions.

In terms of community involvement, the statistics presented previously, search to state that middle aged and elderly people feel themselves closely linked to traditional architecture – either as a reminder of family or tradition – but, they don't seem to find a clear way to actively participate into its protection and its implementation. Youth, on the other hand, is a more heterogenic community also much more radical when judging built heritage. In fact, those who are inhabitants of historical zones, or who are students in the culture/heritage field express higher awareness to heritage assets than those who don't have a direct connection with

[14] School workshop of recovery of materials, constructive technologies and knows traditional in the department of Caldas.

it. Besides, a broken step of knowledge transmission between generations is highlighted, and, that would be the result of what we have previously called the 'death' moment of heritage – 1940 to 1970-. According to this, there are new challenges in what concerns young and children involvement within heritage and culture.

According to this, new technologies and media should be seen as an allied for facilitating research and information sharing process, and not as a concurrent. Youth should be able to find a path that allows them to associate their everyday life with heritage. In that order, built heritage offers plenty of possibilities; we're talking about places that give shelter to a wide random of activities and simultaneously consolidate the urban and, in this case, the cultural landscape.

The isolation of stake holder's actions between them and with the community encourages the non-appropriation attitude from citizens. No doubt of the fundamental work of archeologists, conservators, restorers, etc., but communities need to understand that culture is a tangible asset and an achievable gain to their lives.

Finally, the inherent relation between ecology, economy and culture, enclosed in built heritage, seems to prove that it is possible to institute coherent and respectful planning politics in this field for a sustainable development. Hence, fears or restrictions that are commonly seen towards natural materials based technologies are enhanced most of the times, because of a lack of understanding of the whole picture. That is why the responsibility and compromise from science to community shall be to simplify, multiply and share knowledge.

Reference List.

Books.

Agencia Española de cooperación internacional para el desarrollo. (2008). *"Réhabilitation et revitalisation urbaine à Oran"*. Colloque International. Oran, Algérie, du 19 au 21 Octobre.

Calvo, P. Ana María. (Compiladora). (2001). "*Políticas y gestión para la sostenibilidad del patrimonio urbano*"/ **Juanita Barbosa**…[et al.]; prólogo Álvaro Botero Escobar; Presentación Katya González; introducción Jairo Chaparro Valderrama – la ed – Bogotá: CEJA.

Cifuentes R., P.A; Reyes, Narvaez M.A. (2001). *"Sistemas constructivos livianos y de baja altura apropiados para arquitecturas de ladera"* Caso Manizales. Universidad Nacional de Colombia, sede Manizales. Facultad de Ingenieria y arquitectura. Diciembre.

Collin, B. (2008). *'Des quartiers historiques pour tous'*. Dans: 'Réhabilitation et revitalisation urbaine à Oran, Algérie. Colloque international, Oran, Algérie. 19-21 Octobre.

Florez R, Gilberto. (1996). *"Construcción y dirección de la urbanización la Divina Providencia"*. Sistema de extensión solidaria Universidad Nacional de Colombia, sede Manizales. Julio.

Gonzalez S. Luis O. (2001). *"Uso del bambú en el concreto reforzado"*. Universidad Nacional de Colombia, sede Palmira.

Manual de especificaciones técnicas para el manejo integral de la madera, el bahareque y la guadua, como materiales de construcción de vivienda nueva o mejoramiento de la usada. (2008). Gobernación de Caldas, Arq. Alejandro Lopez Ortiz, investigación inicial. Manizales, Abril.

Ministerio de Cultura. República de Colombia. (2005). "*Colombia, guía pedagógica. Formación integral a partir de comunidad, territorio y memoria*". Bitácora del patrimonio. Bogotá DC. Octubre.

Muñoz, R.J.F. (2009). *'Cultura técnica y tecnológica de las meso - arquitecturas del Municipio de Manizales, Colombia'.* Universidad Nacional de Colombia – Sede Manizales. Facultad de Ingeniería y arquitectura. Escuela de arquitectura y urbanismo. Grupo de trabajo académico de hábitat y tecnología. Manizales.

Normativa colombiana. Ministerio de cultura. Ley 397/1997. ley 388/1997.

POT, Plan de Ordenamiento Territorial. (2002). Alcaldía de Manizales, Acuerdo 508 de 2001. *POT, Plan de Ordenamiento Territorial.* (2003). Alcaldía de Manizales, Acuerdo 573 de 2003.
POT, Plan de Ordenamiento Territorial. (2007). Alcaldía de Manizales, Acuerdo 663 de 2007.

Richardson, Phyllis. (2007). *"XS Ecológico: grandes ideas para pequeños edificios".* Editorial Gustavo Gili, SL, Barcelona 2007.

Rincón, Fabio. (2010). *"El paisaje cultural y su territorio".* Cátedra UNESCO gestión integral del patrimonio. Observatorio par la sostenibilidad del patrimonio en paisajes culturales. Universidad Nacional de Colombia, sede Manizales. Artes gráficas Tizón, Ltda.

Robledo, Castillo Jorge E. (1993). *"Cien Años de Bahareque en el antiguo Caldas"* (2010). Universidad Nacional de Colombia, sede Manizales. (con la colaboración del Cindec).

Suarez, D.C. (2010). *'El paisaje cultural y la cultura local del riesgo'* Estudio del caso de Manizales, Colombia.

Velasquez, B. Luz Stella. (2010). *« El bio Manizales, Manual de bio arquitectura y bio urbanismo »* Universidad Nacional de Colombia. Sede Manizales. Facultad de Ingeniería y Arquitectura.

Book chapters.

Davies, R. (1994). *"COTAC: a network for training and education in architectural conservation".* Vol 13, No 3. (1994). (Pp. 313-317).

Journal Articles.

Berducou, M. (2011).*'Decision-making and approaches: What to keep, what to look for? Conservation-restoration in Europe: Evolving the concepts and principles developed in the twentieth century'*. Sharing Conservation Decisions Seminar, ICCROM, July.

Brokerhof, A. (2011). *'The QALY – a cost effectiveness approach from health care applied to collection care*'. Sharing Conservation Decisions Seminar, ICCROM, July.

Cadet, E. (2011). *'Integrating diversity within a cultural assimilation society: the participatory methods hypothesis in the French context of conservation of cultural objects'*. Sharing Conservation Decisions Seminar, ICCROM, July.

Castellanos, C. (2011). *'The community in the present and future: beneficiaries or partners? Engaging communities in heritage processes: challenges and opportunities'.* Sharing Conservation Decisions Seminar, ICCROM, July.

King, J. (2011). *'From Historic centers to the Historic Urban Landscapes*'. Sharing Conservation Decisions Seminar, ICCROM, July.

Mendes, D.S.J.A.R; Ramos, V.F.A.T. (2011). *'El diseño de un sistema de evaluación para la rehabilitación sostenible'*. Articulo presentado en el 6° seminario sobre planificación urbana; 'Midiendo el desempeño de la conservación del patrimonio'. Recife, Brasil, Marzo.

Ndoro, W. (2011). *'Archeological heritage management in the modern world'*. Sharing Conservation Decisions Seminar, ICCROM, July.

Negri, V. (2011). '*Cultural interest and globalization: the legal tensions of a* couple'. Sharing Conservation Decisions Seminar, ICCROM, July.

Pragnell, J.; Ross, A. (2010). '*Power relations and community involvement in landscape-based cultural heritage management practice: an Australian case study'.* International journal of architectural heritage: conservation, analysis and restoration. Vol. 16, N 1-2, January-March (2010).

Roshi, E. (2011). *'Will you love your monumental house if we restore it? Restoring the owner's relationship with his/her monumental house rather than just restoring the house'.* Sharing Conservation Decisions Seminar, ICCROM, July.

Simila, K.; Pedersoli, Jr. J.L. (2011). *'From multi-disciplinary voices to interdisciplinary dialogue. Beyond the box – science and making decisions'*. Sharing Conservation Decisions Seminar, ICCROM, July.

Varela Fontecha, S., Correal Daza, J.F., Ramirez Rodriguez F. "Preliminary study of sheathing-to-framing connections with glued laminated guadua bamboo panels" En: Italia. 2010. *Evento:* 11th World Conference on Timber Engineering, WCTE 2010 *Ponencia:* Preliminary study of sheathing-to-framing connections with glued laminated guadua bamboo panels *Libro:*, *, p.* - , v. <, fasc.

Villaseñor, I. (2011). *'La evaluación del desempeño de las actividades de conservacion'*. Articulo presentado en el 6° seminario sobre planificación urbana; 'Midiendo el desempeño de la conservación del patrimonio'. Recife, Brasil, Marzo.

Wijesuriya, G. (2011). *'Living Heritage'.* Sharing Conservation Decisions Seminar, ICCROM July.

Zanchetti, S. (2011). *'An indicator for measuring the state of conservation of urban heritage sites: theory and structure'.* Sharing Conservation Decisions Seminar, ICCROM, July.

Online documents.

International Network For Bamboo and Rattan INBAR. http://www.inbar.int/. Accessed April 2011.

Ministerio de Cultura. Colombia. http://www.mincultura.gov.co. Accessed 2nd July 2011.

Recomendación relativa a la Protección de la Belleza y el Carácter de los Lugares y Paisajes, 11 de diciembre de 1962

http://portal.unesco.org/es/ev.php-URL_ID=13067&URL_DO=DO_TOPIC&URL_SECTION=201.html. Accessed 1st August 2011.

SINIC, Informe del Sistema Nacional de Cultura, Colombia. Ministerio de Cultura. http://www.sinic.gov.co/oei/paginas/informe/informe_21.asp. Accessed 25 July 2011.