PLANS AND PROJECTS "BEYOND THE BOUNDARIES": SUBJECTS, KNOWLEDGE AND TOOLS

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This panel proposed a disciplinary look at theoretical reflections and case studies useful to think about the role of the universities according to the specific perspectives of urban planning courses and curricula within the decentralized cooperation initiatives around the world. The focus is based on changes in knowledge and skills "required to" and "produced by" the universities, within a large numbers of international experiences, where researchers are more "service providers" or a kind of "problem solver" (on demand) rather than subjects able to develop a supportive expert knowledge to do better in the cities and territories beyond the national boundaries. In fact, in a context of fewer resources available, a lot of Italian universities have been involved within international cooperation projects, but with a very low ability to reflect on practices and translate these experiences in common knowledge to better carry out our work as planners (reading, interpreting and regulation of urban and territorial transformations) in fragile contexts (or in developing or emerging regions as well). Thus, the panel has been configured as a space to present and discuss researches and studies in order to enhance and connect projects and theoretical reflections on:

- interventions in the international arena, in which specific experts skills were able to support processes and projects helpful to regain a more appropriate role in society and in the public debate;
- strengthening the framework of the knowledge and skills of the Italian schools of planning resulting from the comparison and/or contamination with international experience also to reshape the national formative offers.

Therefore, the aim is to verify the ability to deal with the internationalization of the practices and training that pass through the decentralized cooperation projects, by coming to terms with the continuous redefinition – within the practices – of the "disciplinary boundaries" and the professionalisms.

THE GENERAL FRAMEWORK

Within a conference that has been focused on the discussion of the relationship between international cooperation and Universities, according to the different perspectives offered by the different panels, our panel has been defined as a challenging question on what we define the characteristics of the schools and the knowledge of the "Italian urban planning" involved in international initiatives and projects and, in particular, those of cooperation for/to the development. The aim it has been to explore and put under observation the role of planning as an opportunity to act reconfiguration of the development, of the cultural heritage, and more in general, the improving the quality of life in cities and territories.

The proposed and discussed ideas are located into a perspective that argues the need and the opportunity to try to restore the centrality of power and the technical components within the public institutions, looking with some suspicion to the international cooperation 'as a profession', and, therefore, critically observing the action of international agencies or NGOs specializing in this activities.

In fact, often with more financial resources and a focus full-time on this or that area compare to the Universities, the NGOs or International Agencies, by their own nature and mission, frequently tend to favour instead of deal with the roots of the more relevant issues. Even so, inevitably, the resolution of concrete problems would undermine, in a sense, the very reasons for their existence in life and their professionalism.

The Universities, however, according to their different goals and objectives, have the opportunity to play a positive role in terms of training and, most importantly, of sharing of research tools and appropriate response to the specific context. Moreover the Universities also have an interest in maintaining relations of exchange and interaction of long-term, but also to expand and accumulate situated knowledge and experimentations.

In this sense, the cooperation projects may be more appropriately used to let us know and, therefore, make known, even neighbouring areas "unknown", obscured by a system of cultural hegemony and domination by the media, mirroring the strong existing asymmetries of power, and, therefore, inevitably influential on the persistence of the condition of discomfort, isolation and subordination. In addition, the enormous amount of scattered projects, often without an examination of the real needs and without any form of coordination among different donors, with the simultaneous arrival of large amounts of money, put the political and the technical component into an often opportunistic condition, which threatens to take away their sense of commitment and accountability towards public affairs.

In many parts of the world, the mass of projects with no results and no measurable effects, despite the money

invested – according to the well-known law of the evaluation on the "efficiency of expenditure" and not on the "effectiveness of the results" – tends to amplify, at the end, the feeling of uncertainty, in particular, those of the local planners and their difficulty to imagine and shape the future in their "space".

Even considering that, as it has been said it is actually much easier for international cooperation to provide support in terms of humanitarian aid, rather than instruments of regulation or for the strengthening of institutions (despite the abundance of funded institutional capacity building projects), it contributes, not rarely, to the reproduction of dangerous processes of de-politicization of the questions, making in fact, the project target, "the people" declassified (maximum) to the role of victims.

The comparisons with the experiences and reflections proposed highlighted the importance of the international project to:

- the engage with the community of practice, starting from inside the institutions;
- the development of a way of thinking and acting jointly, between exterior and interior, strongly anchored to the local level;
- a critical approach to the theories of planning for the most optimal use in their practices;
- a simultaneous attention to training and parallel adaptation and development of the research agenda informed of the work context.

At the same time, it is perhaps possible to consider the opportunity of working within the experiences of this kind also in order to understand how to adapt, develop and make better use of our tools of the trade "at home", even in situations more difficult and extreme.

These reflections, in fact, offer us the opportunity to understand, from a different perspective, such as our work and our commitment can be useful, since it allowing us to orient the direction and redefining new priorities in research agendas.

CONTRIBUTIONS

The panel has been organized to discuss two main focuses:

a) educational training, research and roles of urban planners;
b) tools and policies for the development of techniques, resources and social actors.

Contributions came from the Universities of Trento, Florence, Camerino and Rome. In particular, Alberti, Bindo, Gialanella's paper presents the results of an exploratory investigation into the relationships International cooperation in the European Universities with other foreign countries.

Roberta Nicchia's paper describes that, in the last ten years, the University of Trento has been involved in a decentralized cooperation programme that promotes cultural, technical and administrative exchange between the Provinces of Trento and Sofala, Mozambique. The contribution focuses on the spatial planning activity in Mozambican rural towns, resulting from the cooperation of the different actors belonging to the programme. The focus is on the introduction of culturally-compatible changes and, therefore, on the full involvement of the population in the decision-making process.

From the University of Florence, Loda and Tartaglia's paper illustrates the results of the collaborative relationship between the University of Florence and the University, the Department for Urban Development and the Municipal Council of Herat, aimed at the formulation of a new strategic Masterplan (SMP) for the city of Herat. In particular the paper illustrates the systematic programme of analysis undertaken to construct an updated information base on current socio-demographic and territorial situation of the urban area, and some findings testifying the deep changes that have been taking place in the last decades. Moreover, the paper offers with a more detailed description of the analysis process and the proposed strategic actions about the transportation urban system.

Pierantoni, Camaioni and Sargolini's paper explained that UNICAM has developed a system to support the decision-making process through the definition of a valuation model tested on seven regions: the Autonomous Province of South Tyrol, National Park Gesäuse region Mostviertel (Austria), District of Maramures (Romania), Region of Kosice (Slovakia), North Hungary (Hungary), District of Rzeszow (Poland). The model plays with three roles: 1) critical analysis of the transport model in place; 2) critical analysis of the status and potential of the territories; 3) project of new scenarios for a more sustainable transport system.

Again, from the Sapienza University, the Montella's paper analyses the results of the report and identifies the role of the MUST-Millennium University Studio Team and the role of the University of Sapienza University within a specific project of international cooperation, proposing an open debate on the ranking of Italian universities at a time of economic crisis and cuts the funds of international cooperation. The essay examines the activity of the High Level Course on the Millennium Development Goals, with particular attention to the third edition of the courses taken as the final result, an analysis report on a cooperation project between UN-HABITAT and Homa Bay, a small town on the Kenyan shores of Lake Victoria.

And, moreover, the Scacchi paper reflect on the Habana Vieja, the largest historic centre of colonial type stored in Latin America and even today retains its traditional urban footprint, harmonious juxtaposition of different architectural styles, Declared by UNESCO "World Heritage" in 1982. Through this paper she analyse the work of recovering the historical centre of Habana, officially launched in 1994 through the Master Plan entrusted "Historian of the Oficina de la Ciudad de La Habana" with the Spanish Agency for International Cooperation, the Government Local, universities and associations for international cooperation. Twenty years after the start of this project is to assess whether it was put into play an effective movement of regeneration, having produced processes of participation and human resource development and economic premises, or if the risk was to be alone "staged" for tourists, rearranging some houses and central services attractive major, "just as they once were" only to recall nostalgically the past and recreate "typical situations", imposed by mass tourism.

CONCLUSIONS

The papers and the discussion helped us to reflect on the specific role and contribution that we can provide as Italian scholars, teachers, planners, especially in a general widening of the boundaries of our activities, but also considering the wider basin of provenance of our students from all around the world.

In particular, the different experiences have provided some guidance on "how" the Italian planning practices can say something to the rest of the world. Not as "success stories *tout court*" or formalized mechanisms to export "to colonize the world" within an exhaustive list of given questions and answers, but as special skill, often artisan, to be able "to do well despite everything", to work on rough ridges keeping open the reflection on their own limitations rather than on its own merits and solid certainties.

In this sense, the utility of the Italian experiences would lie more in the general attitude into a "critical exercise", rather than in the "translation" of "given answers". Providing, in this way, an operational contribution versus the spread provision of "manuals" with the usual neo-colonial approaches: problems at the South, and solutions from the North.

But, of course, to activate this important changing, we should begin to do not disperse the stories and feedbacks on the work we are developing around the world, giving us the opportunity for discussion and debate to expand our schools, while we are trying to make a contribution to their schools, to their territories and in their institutions.

UNA EXPLORACIÓN DE LOSCURRÍCULOS DE LAS ESCUELAS EUROPEAS DE PLANEAMIENTO EN EL ÁMBITO DE LA PLANIFICACIÓN DESCENTRALIZADA

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ABSTRACT

Esta ponencia quiere presentar los primeros resultados de un trabajo de investigación exploratorio sobre las relaciones de cooperación internacional en las universidades europeas con países extranjeros. Se ha querido estudiar en detalle las actividades fomentadas en este sentido por las escuelas de regional and urbanplanning. Se ha utilizado la lista de Universidades que mantienen relaciones con la Facultad de Arquitectura de la "Sapienza" a través del programa Erasmus para realizar una selección preliminar. A partir de la información publicada en las páginas webs de estas universidades, se escogieron las que se han mostrado especialmente activas en favorecer experiencias de cooperación, y sobre estas se ha desarrollado un trabajo de investigación más detallado. La metodología utilizada ha requerido una exploración más escrupulosa de las experiencias propuestas, a través de la interacción directa con las escuelas seleccionadas (solicitud de más informaciones y envío de encuestas). El análisis se ha desarrollado a partir de varias preguntas de investigación: ¿Cuáles han sido las modalidades privilegiadas de intercambio? (¿Estudio teórico? ¿Workshop? ¿Proyecto?) ¿En qué momento de la carrera se proponen? (¿En los últimos cursos? ¿En los primeros? ¿En asignaturas obligatorias u optativas?) ¿Cómo se estructura la colaboración entre países? En esta ponencia se presentará el trabajo de sistematización de las informaciones sobre las principales experiencias de cooperación en las escuelas europeas de planning, pero cabe señalar que el objetivo final de la investigación será comprender si es posible reproducir dichas experiencias las en la formación básica del planner.

MARCO TEORICO

Para hacer frente a un panorama laboral cada vez más globalizado y orientado hacia la internacionalización, la capacidad profesional necesaria hoy en día, tanto en elámbitolaboral como en el científico, parece necesitar de un enfoque basado en la observación de las diferentes áreas geopolíticas y en la interpretación del escenario global. Varios institutos, escuela yuniversidades en los últimos años han trabajado para añadirun conocimiento de las principales tendencias políticas y económicas que tienen lugar en contextos internacionales, facilitando extremadamente el intercambio cultural y la colaboración entre especialistas y estudiantes de diferentes disciplinas. Muestra de ello son los muchos programas que fomentan el intercambio y la movilidad internacional, surgidos principalmente de acuerdos institucionalesde cooperación entre países europeos y del extranjero.

La intención de investigar acerca de la formación que en este campo se ofrece en las universidades europeas surgió de la observación de estas dinámicas, y de la constatación de la necesidad de fortalecer la competencia de algunas figuras profesionales que están llamadas a trabajar en un contexto internacional. Esta investigación permitirá conocer las posibilidades de proporcionar en la educación universitaria herramientas útiles para afrontar contextos internacionales tanto en la actividad profesional como en la investigadora.

En particular, se decidió indagar acerca de la formación del plannereuropeo, que parece necesitar cada vez másde nuevas habilidades, métodos y herramientas para garantizar un enfoque proyectualadecuado a contextos internacionales. Se puede deducir, en efecto, que además de la formación básica de un plannerserían necesarias asignaturas adicionales dirigidas aintroducir al alumno en el trabajo en el extranjero.

La universidad parece tener la responsabilidad inicial en la formación del plannereuropeo, que necesita de nuevas herramientas y capacidades cada vez más dirigidashacia un panorama que va más allá de su lugar de procedencia. De hecho, en las escuelas de arquitectura en Europa asumen cada vez más relevancia los proyectos desarrollados en ámbito internacional, hasta estructurar master y cursos de postgrado que incluyen en sus programas actividades de intercambio y planificación en países extranjeros.

Se observa en los últimos años una atención especial a la creación de asignaturas que tienen como objetivo el conocimiento y la comprensión de los escenarios internacionales, tanto delos países en desarrollo, de los emergentes y de los desarrollados. Estaorientación nos lleva a reflexionar sobre la utilidad que este enfoque podría tener para que la formación del plannersea más completa,ya que de esta manera se ve obligado a desarrollar capacidades críticas y de acción en contextos distintos al suyo, donde necesita diferentes herramientas y modos de intervención.

Si en la formación del planner tiene tanta relevanciaesta orientación internacional, ¿por qué no estructurartambién

los programas de grado con este enfoque? ¿Por qué no introducir dentro delos planes de estudiosasignaturas específicas que traten el tema dela internacionalizacióndirectamente en los proyectos?

La investigación realizada se mueve en la intención de encontrar elementos que ayuden a reflexionar sobre la figura del planner en un ámbito internacional y cómo se provee su formación en las universidades europeas.

OBJETIVOS

La Universidad se puede considerar a todos los efectos el lugar donde empieza la formación del planner, el lugar donde el estudiante puede desarrollar sus propias capacidades y aprender nuevos conocimientos que le permitan confrontarse con las exigencias del mundo laboral. Por otra parte, hoy en día, el mundo del trabajo, cada vez más globalizado, pone al planner más a menudo en la situación deenfrentarse con realidades territoriales muy diferentes de las de su país de procedencia y/o de formación.

A partir de este escenario, en este artículo se presentan los primeros resultados de una investigación que quiere reflexionar sobre el papel que las universidades, tal y como están estructuradas hoy en día, tienen en preparar alplannerpara esta emergente demanda laboral.Con este objetivo se ha analizado la estructura de la oferta académica en las escuelas de planificación urbana y territorial en Europa para destacar principalmente el siguiente par de aspectos.

El primer aspecto se refiere a la naturaleza del intercambio. En este sentido la investigación trata de entender cuando se prefieren experiencias de corta duración (como por ejemplo los workshop) y cuando, por el contrario, el intercambio es parte integrante de una asignatura cuatrimestral o anual. También se analiza si se propone una experiencia proyectual o solo se llega a un conocimiento teórico. Además se distingue entre que estas experiencias estén estructuradas dentro de los planes de estudio o se propongan como optativas fuera de la oferta académica obligatoria. En este sentido resulta importante analizar, además, en qué momento del plan de estudios se proponen estas experiencias de intercambio. Para completar el marco cognitivo se quiere conocer también cuáles son los temas que normalmente son objeto de estudio en estas experiencias.

El segundo aspecto analizado se refiere a la naturaleza institucional del intercambio. A través de la investigación propuesta en este artículo se quieren identificar los países que proponen más experiencias de intercambio dentro del plan de estudio. El análisis quiere también identificar los canales que más a menudo se activan para poder realizar el intercambio a la hora de estructurar la colaboración con una universidad extra-europea. En concreto se quiere estudiar si existen proyectos de intercambio estructurados o sólo se proponenexperiencias aisladas. El objetivo de esta fase de análisis es delinear la naturaleza del intercambio, poniendo el énfasis sobre todo en la identificación de los actores y de las instituciones más sensibles a las experiencias de cooperación y de intercambiocon países fuera de la Unión Europea.

METODOLOGÍA

La investigación se llevó a cabo a nivel europeo, mediante la selección de las escuelas de planificación que se mostraron ser particularmente activas en la promoción de intercambios internacionales.

Para una primera selección de Universidades, se ha tenido en cuenta la lista de las universidades que, en el año académico 2012/2013, han firmado el programa Erasmus con la facultad de Arquitectura de la Universidad "Sapienza" de Roma. Se decidió empezar por las universidades que participan al programa Erasmus porque creemos que el hecho de firmar lo que puede considerarse como el programa de intercambio por excelencia en el ámbito de la enseñanza universitaria europea, puede considerarse una señal de apertura a los intercambios internacionales. Además, esta investigación comienza por la Facultad de Arquitectura porque, por lo menos en Italia, es el principal centro de formación de los planners del futuro. Para fases sucesivas de la investigación, podría ser interesante analizar también las experiencias llevadas a cabo en las facultades de geografía o asignaturas experimentales de economía y planificación.

El objetivo final de esta investigación es conocer las experiencias realizadas en distintos países de la Unión Europea para ayudar a mejorar la formación de los planners y que pueden ser reproducidas en los planes de estudio de las universidades, especialmente de las italianas de las que forma parte este grupo de investigación. Por esta razón, para esta primera fase de trabajo no se ha incluido el estudio de la situación en Italia, centrándose primero en el análisis de los mecanismos que favorecen las experiencias de cooperación internacional en las universidades de los otros países europeos.

Investigación preliminar y selección de las escuelas de planning

La exploración de las actividades de cooperación internacional dentro de los planes de estudio de las universidades europeas se ha llevado a cabo a través de tres fases de investigación.

A través de la primera fase han sido seleccionadas, entre las escuelas de arquitectura en la lista, aquellas donde la formación del arquitecto se inclina hacia la dimensión urbana y territorial más que en los aspectos tecnológicos, constructivos y de diseño. Este primer estudio se llevó a cabo exclusivamente con la información disponible en las páginas web de las universidades.

Después de seleccionar las escuelas que pueden ser consideradas como responsables de la formación de los planners

europeos, se ha empezado por el análisis detallado de los planes de estudio ofrecidos. En esta fase, hemos tratado de averiguar el interés de algunas universidades sobre los países exteriores a Europa. Se ha intentado examinar si la familiaridad histórica y cultural (véase, por ejemplo, las antiguas colonias) o de idioma facilita las relaciones entre países europeos y extra-europeos. Este trabajo ha sido necesario para descubrir el perfil de los países que prestan más atención a la formación de sus estudiantes desde un punto de vista internacional. En el estudio de las experiencias propuestas también se ha hecho una primera distinción entre preparación teórica y práctica, llevando a cabo un análisis detallado de aquellas donde efectivamente se ponga el estudiante en las condiciones de experimentar lo que significa hacer proyectos en contextos fuera de Europa. También se hanestudiado las páginas web de las oficinas de las "Relaciones Internacionales" de las universidades, para obtener informaciones sobre la posible ubicación de dichas experiencias en un proyecto de internacionalización.

En la tercera fase de investigación se han seleccionados cuatro países europeos que han mostrado una mayor apertura a la cooperación internacional con países fuera de Europa: Francia, Alemania, Portugal y España. Después de haber esbozado sumariamente el perfil de las experiencias propuestas en estos países (a través del estudio de los documentos disponibles en la red) se decidió utilizar las encuestas para obtener más informaciones de las experiencias más interesantes.

Encuestas

Los cuestionarios utilizados para la recogida de información sobre la experiencia de cooperación internacional se han estructurado de acuerdo a la información inicial obtenida en la fase anterior de investigación.

El cuestionario ha sido estructurado para que fuera posible recoger informaciones tanto sobre el tipo de contactos que llevaron a la colaboración entre las dos partes, comosobre el tipo de actividades previstas en el intercambio.

Respecto al primer asunto se ha querido averiguar si las actividades de cooperación surgen de contactos personales o institucionales, y además sila voluntad de intercambio y apertura al exterior depende de los docentes o de acuerdosentre las universidades.

En cuanto al análisis detallado de las actividades previstas en el intercambio se ha tratado de esbozar el tipo de actividad propuesta a los estudiantes, teniendo en cuenta por un lado la relevancia que se da a este tipo de experiencia en los planes de estudio y, por otro, el tipo de conocimientos y experiencias que se consideran como fundamentales para la formación como planner.

Se enviaron cuestionarios a todos los representantes de las actividades de intercambio con países no europeos propuestas en las universidades seleccionadas previamente en Francia, Alemania, España y Portugal. Se decidió consultar directamente los responsables de las asignaturas o workshop con el fin de obtener, de esta manera, la información más específica posible sobre las experiencias seleccionadas.

Se consideró la opción de recoger información adicional sobre las experiencias activadas contactando directamente con los responsables de las áreas internacionales o de cooperación de varias universidades. Sin embargo, este camino ha sido abandonado para esta primera fase dado que en algunas universidades la oficina para la internacionalización es responsable solo de los intercambios Erasmus, mientras que en otras se hace referencia en general a la posibilidad para los estudiantes de hacer prácticas externas de trabajo en el extranjero. Ambas situaciones salen de la oferta académica en las universidades que es el marco donde se quiere mover esta investigación.

RESULTADOS

Los resultados obtenidos se presentan divididos en dos fases:por un lado la "investigación cognitiva", basada en el análisis de los programas publicados por las universidades y por otro lado las respuestas a los cuestionarios enviados a los respectivos responsables. Esta segunda fase, pese a que aún no haya producido resultados significativos, consideramos que merece ser explicada con el fin de comenzar a esbozar las líneas futuras de la investigación.

La primera parte de la investigación sirvió para entender cómo la internacionalización es tratada por parte de la oferta educativa. Se observaron varias fórmulas para entrenar al alumno en la labor de realizar proyectos de planificación urbana en el extranjero. Una primera fórmula esfacilitar la experiencia de un análisis comparativo internacional mediante, principalmente, la concesión de ayudas y subvenciones para abordar el período de estudio en el extranjero, particularmente para la realización de tesis. Otro caso sería la organización deasignaturas de acuerdo con la especialización de la carrera. En algunos casos, de hecho, se tratan de programas de grado que explícitamente se ocupan de la cooperación internacional al introducir la posibilidad derealizar proyectos en el extranjero.En estos casos, las facultades organizan proyectos, workshop, seminarios dentro del plan de estudios. En particular se organizan workshopen los que se propone un proyecto de arquitectura y planeamiento en ubicaciones fuera del país de origen de los alumnos de manera que estos deben realizar estudios específicos previos y recabar las características culturales a través de la estancia directa en el país de acogida. Se prevé, en estos casos, un período de una o más semanas de estudioen el extranjero, preferiblemente en colaboración con la universidad de acogida aprovechando las estructuras que ésta ofrece. Estas experiencias normalmente terminan con la elaboración de un proyecto, que en algunos casos se publican en la prensa o en laspáginas web delos departamentos.

Los resultados hasta ahora encontrados llevan a poner de relieve el empeño general e institucional para la

internacionalización de las carreras, aunque, específicamente en los cursos de arquitectura, la decisión de internacionalizar su orientación (salvo casos excepcionales) sigue siendo opcional. El análisis de la formación del planner hasta el momento parece sugerir un escenario poco homogéneo, variando en función de las decisiones tomadaspor las distintas escuelas de arquitectura o las personales de cada estudiante.

Francia

En Francia se examinaron 16 universidades, de las cualesdos fueron descartadas por estar especializadas respectivamente en diseño y restauración. De otras cuatro no ha sido posible obtener información sobre sus planes de estudio. De las diezescuelas de arquitectura que quedaron, en ocho se encontró cierto interés por la dimensión internacional de la educación teniendo en cuenta quese ofrecen asignaturas (teóricas y/o proyecto) o workshopdonde es posible confrontarse con el extranjero. Centrándose sólo en losintercambios de carácter proyectual con países no europeos, se ha llevado a cabo un estudio exhaustivo de cinco universidades[1].

Las experiencias de proyectos de cooperación internacional examinadas fueron más de 20, casi todas propuestas entre el cuarto y el quinto año de la carrera. Casi todas están incluidas enel plan de estudios, pero se puede argumentar razonablemente que la información sobre workshop y otras experiencias extracurriculares no incluidas en el plan de estudios es más difícil de encontrar en la red. Algunas universidades ofrecen en los últimos dos años de estudiounaespecialización completamente dedicada a proyectos y planificación más allá de sus fronteras. Yen Versalles también es posible lograr la doble titulación franco-china en arquitectura.

De hecho, los intercambios con los Países asiáticos, parecen ser especialmente fomentados en las universidades francesas. Cincoasignaturas proponen intercambios con China y Japón, doscon ciudades de India y dos con ciudades de Camboya y Tailandia. Como se puede ver en la siguiente tabla se detectan otros intercambios con ciudades de América Latina (3), con Palestina (1) Uzbekistán (1) y Marrueco (1). En general, podemos ver que hay una tendencia a establecer relaciones sobre todo con los países emergentes o en desarrollo.

Tab. 1 – Países involucrados en intercambios internacionales con las universidades francesas examinadas.

Países involucrados	Numero de intercambios
INDIA	2
AMERICA LATINA	3
ASIA	5
CAMBOYA - SiemReap	1
TAILANDIA - Bangkok	1
PALESTINA	1
MARRUECOS - Casablanca	1
UZBEKISTAN - Tachkent	1
Indefinidos	2

A partir de las descripciones de lasasignaturasconsultadas en internet se ha observado que la fórmula más frecuente que se propone es la de un viaje de inspección en el país donde se propone el proyecto al comienzo de la asignatura (el periodo de la estancia es variable y no siempre se expresa) mientras que el desarrollo del proyecto propuesto casi siempre se lleva a cabo en la universidad de origen. Sólo en casos raros se fomentan períodos más largos de tiempo en el extranjero y que elintercambio sea bilateral.

Para la segunda fase de la investigación, el envío de cuestionarios, de las más de 20 asignaturas y workshop examinados se ha podido establecer contacto con docerepresentantes. Por desgracia, y probablemente debido al período en que se realizó la investigación (cerca de las vacaciones de verano), contestaron únicamente 4 representantes[2]. De las respuestas recibidas a través de los cuestionarios se observó que los promotores del intercambio provienen tanto de las universidades francesas como de las extranjeras. La iniciativa, casi siempre (3 respuestas de 4), parte de un programa universitario ya estructurado y con financiación. La experimentación en los proyectos se lleva a cabo tanto en el campo de la arquitectura como en el dela planificación urbana, y, en cualquier caso, dentro de los dos últimos años de la carrera. Las experiencias de intercambio para los cuatro casos analizados implican dos semanas de estancia en el extranjero durante el semestre académico. Sólo en el caso delintercambio entre Versalles y Kyotoel acuerdo es bilateral, y se prevéuna estancia de cuatro semanas de los estudiantes japoneses en Francia (dos semanas de proyectos y dos de viajes). Gracias a las respuestas obtenidas, se puede decir que las experiencias de intercambio están bien consolidadas: se desarrollan desde hace varios años[3] y,en general, se espera que se realicen también en el próximo curso académico.

Como conclusión del análisis hasta aquí desarrolladose puede decir que las facultades de arquitectura francesas parecen estar particularmente atentas a la formación de sus estudiantes en los ejercicios de proyecto más allá de sus

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[1]L'École Nationale Supérieure d'Architecture de Paris La Villette, l'École de Architecture de Paris Belleville, l'École Supérieure d'Architecture Paris Malaquais, l'École d'Architecture de Saint-Etienne e l'École d'Architecture de Versalles.
[2]Tres son universidades de Versalles y una de Malaquais (Paris).
[3]A parte el caso de la asignatura que prevé un intercambio entre Versalles y Casablanca, pero sin embargo, según la opinión del representante es parte de la tradición de la Universidad deVersalles.

fronteras. La formacióncomienza a través de cursos de inglés y de asignaturas impartidas en este idioma desde los primeros años de la carrerapara, posteriormente, concretase de manerapráctica en los últimos dos años en los que son bastante comunes asignaturas teóricas sobre aspectos particulares de la historia y de la construcción de países extranjeros, además de intercambios para la experimentación de técnicas de proyecto. Cabe señalar que el apoyo por parte de la estructura académica francesa a la cooperación internacional también es subrayada por el apoyo financiero que ofrece a los estudiantes para participar en estas iniciativas.

Alemania

La investigación llevada a cabo en las universidades alemanas ha permitido, hasta ahora,identificar algunas facultades activas en los intercambios internacionales en el campo de la planificación urbana. La mayoría de lasescuelas alemanas tiene programas de estudios que prestan mucha atención a la arquitectura de los países europeos, pero algunas se distinguen por la presencia en los planes de estudio de actividades internacionales, es decir que promueven intercambiosde carácter cultural tanto unilateral como bilateral con países no europeos. El intercambio se lleva a cabo a través de la formulación de proyectos de arquitectura en asignaturasobligatorias o en workshop opcionales que se llevan a cabo en parte o en su totalidad en el país extranjero que participa en el intercambio.

Cabe señalar que la introducción de asignaturas de "proyecto internacional" directamente en el plan de estudio se lleva a cabo sólo en los casos de grados orientados al desarrollo de la formación específica en contextos internacionales. En particular, estamos analizando algunas facultades de arquitectura, como la de Darmstadt, la "TechnischeUniversitätDarmstadt",donde se organizan asignaturas para la cooperación internacionalpero no se incluyen necesariamente períodos de formación en el extranjero, y la Facultad de Arquitectura de Frankfurt am Main "Fachhochschule Frankfurt Am Main" donde se alienta el intercambio con Nepal, Australia y Sudáfrica mediante la organización de workshop de una duración de dos semanas o más.

La búsqueda se llevará a cabo por otrasfacultades de arquitectura si se detectara la presencia de cursos de planificación estructurados para fomentar intercambios con países no europeos.

España

El primer estudio exploratorio realizado en los programas de estudio que se ofrecen en lasfacultades de arquitectura de España ha puesto de relieve una atención generalizada hacia la tecnológica y la construcción del proyecto, que parece prevalecer en la enseñanza de la planificación. El análisis de los detalles de las asignaturas de planeamiento y urbanismo propuestos también demuestra que en la mayoría de los casos, la atención se centra principalmente en el estudio de las dinámicas del territorio español: de los programas de las asignaturas que se han encontrado en la red, surge que la atención se centra principalmente en el estudio detallado y en el análisis de la legislación propia de cada región, la Ley del Suelo de cada Comunidad Autónoma, y de los diferentes niveles de planificación especificados en dichasleyes.

En este marco representa una excepción la facultad de arquitectura de la Universidad privada Camilo José Cela de Madrid. En este caso se utilizan los workshop para introducir actividades de carácter internacional en el plan de estudio. Dentro de las asignaturas semestrales de proyectos se prevén workshopque duran unos pocos días y que ofrecen la posibilidad de una colaboración con profesores de otras nacionalidades.

En general, sin embargo, la investigación hasta ahora no ha detectado la presencia de cursos donde se prevea un período de permanencia obligatoria en el extranjero. En el análisis de las asignaturas de carácter teórico, sin embargo, sí que aparece una sensibilidad diferente y cierta apertura al conocimiento de realidadesfuera de las fronteras españolas. Dentro de estasasignaturas, de hecho, se observa con frecuencia la inclusión de reflexiones teóricas sobre la historia de la arquitectura y del urbanismo, en todo el continente americano. El interés, sin embargo, no parece materializarse (por lo menos según lasinformaciones disponibles en la red) en experimentos de carácter proyectual.

Portugal

La investigación realizada sobre las universidades en Portugal señaló, en primera instancia, que, además de las facultades de arquitectura y de diseño también es posible detectar la presencia de muchas universidades que ofrecen grados completamente dedicados a la planificación urbana y territorial.

Entre las muchas universidades detectadasen el territorio portugués sin duda destacan la Universidad de Porto, que ofrece una carrera en "Planeamiento y Projecto Urbano", y la Universidad de Lisboa, donde además del masteren "Planeamiento do Territorio" propuesto dentro de la Facultad de Arquitectura también encontramos el Instituto de Geografía y Ordenamiento delTerritorio. En estas facultades las actividades de carácter internacional destaca particularmente el trabajo sobre cuestiones relacionadas con la realidad de los países africanos.

En el caso del Instituto de Geografía de Lisboa, este interés se encuentra en las asignaturas obligatorias y en las opcionales. En el primer caso, además de una base teórica se fomentan periodos de estudio en el extranjero, aunque no está claralado modalidad de intercambio y el tiempo que el estudiante puede pasar en el país extranjero. En el caso de las asignaturas opcionales, sin embargo, surge un enfoque sobre todo teórico, y el objetivo declarado es entender y analizar el proceso de planificación en África, pero también en este caso no se explícita si existe la oportunidad de pasar un

período en el país estudiado o no[4].

En una fase posterior de la investigación se continuará con la investigación para tratar de esclarecer de qué manera se da a los estudiantes la oportunidad de pasar un período de estudio en las áreas estudiadas.

CONCLUSIONES Y PERSPECTIVAS DE TRABAJO

De la investigación llevada a cabo hasta ahora se deduce una gran atención general, por parte de las universidades europeas examinadas, para las realidades fuera de sus fronteras. Se encontró, sin embargo, que cada país formaliza este interés de manera diferente. Sin duda, esta primera investigación sugiere que la Francia es el país donde las experiencias de cooperación internacional, especialmente con los países no europeos, están más estructuradas y generalizadas. Debe señalarse que la investigación sobre las universidades francesas ha sido facilitada por el hecho de que es posible consultar directamente en las páginas web prácticamente todos los detalles de las asignaturas.Pero obviando esa facilidad para el investigador, la semejanza en la estructura propuesta para el intercambio en casi todas las universidades francesas (asignaturas semestrales y visita de dos semanas en el extranjero), sugiere una voluntad compartida y, probablemente, gestionadaa nivel nacional.

La primera fase del estudio presentada en este trabajo deja abiertas muchas líneas de investigación. En primer lugar sería interesante comprender (tal vez a través de cuestionarios específicos enviados a las oficinas internacionales) si en los países no analizados en esta fase es inexistente el interés a experimentar lo que significa desarrollar un proyecto en el extranjero o si, por el contrario, simplemente no se publicitan en las páginas web de las universidades. La misma investigación podría llevarse a cabo para aquellas universidades de los países examinadosen las que, en esta primera fase, no se ha encontrado información sobre la realización de experiencias internacionales. En ambos casos, tal vez sería oportuno reflexionar sobre las motivaciones culturales que justifican la apertura o no al extranjero. ¿Por qué un país está más interesado en la formación de sus planners desde un punto de vista internacional? ¿Se puede hablar de uninterésen fortalecer los conocimientos adquiridos por el alumno? ¿Es un interés dictado por acuerdos a nivel nacional con otros países? Y la falta de interés, ¿puede ser un indicio de una visión miope de lo que son hoy los horizontes de un planner? ¿O simplemente es un síntoma de un deseo de especializarlos estudiantes desde el punto de vista técnico y teórico dejando la experimentación práctica al mundo laboral?

Otra aproximación se podríallevar a cabosobre el sistema de cooperación internacional en el ámbito universitario en su conjunto. A través de un análisis más detallado de los primeros datos obtenidos en estainvestigaciónpodría ser posible entender cuál es la fórmula preferida y considerada más efectiva para la adquisición de las habilidades necesarias por parte del alumno. También será fundamental entender realmente lo que se aprende de las experiencias de intercambio. ¿Cuáles son las expectativas? ¿Las experiencias de cooperación llevana oportunidades reales de empleopara los estudiantes? ¿Cómo el intercambio afecta la manera de hacer proyectosen el país europeo que lo propone? ¿Y cómo afecta alpaís extra-europeo? ¿La presencia de los intercambios favorece una afluencia de plannersy arquitectos europeos en las áreas extra-europeas? En resumen, ¿cuál es el valor añadido de un programa de formación que toma la decisión de invertir en la cooperación internacional?

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[4]En la Guía académica de la asignatura "Planeamento Urbano em África" (disponible en la red) solo se habla de "conducir una investigación empírica sobre los procesos de urbanización en los PALOP".

SPATIAL PLANNING IN PREDOMINANTLY VERNACULAR SETTLEMENTS. THE CASE OF AFRICAN RURAL TOWNS.

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ABSTRACT

In the last ten years, the University of Trento has been involved in a decentralized cooperation programme that promotes cultural, technical and administrative exchange between the Provinces of Trento and Sofala, Mozambique. This contribution focuses on the spatial planning activity in Mozambican rural towns, resulting from the cooperation of the different actors belonging to the programme. African rural towns are essentially towns of farmers in which the development of strictly "urban" activities and functions are found in a society whose features are typically "rural". Vernacular settlements and traditional housing typologies are still widely dominant in the landscape. Nevertheless, "urban" and "modern" settlement patterns and housing models are being imported.

The paper investigates the dialectic relationship between vernacular traditions and modernization, which expresses in a complex mixture of traditional and modern elements. Main research methodology was a household survey led in Sena, a small town situated in the rural Mozambique. Furthermore, some suggestions are provided, which aim to support a spatial planning process that is culturally appropriate and responds to the specific characteristics of this particular typology of human settlement. The central strategy is the enhancement of vernacular settlement patterns and housing typologies and their integration with emerging urban features. Two main reasons determined the choice of this strategy: the preservation of the traditional forms of spatial organization is essential to support the survival strategies of most of the population; protecting and reinterpreting the vernacular tradition by culturally appropriate means is a useful strategy to avoid the indiscriminate colonization of western models. The focus is on the introduction of culturally-compatible changes and, therefore, on the full involvement of the population in the decision-making process.

INTRODUCTION

Small towns of sub-Saharan Africa are experiencing a very rapid demographic growth, which in some cases can lead to the doubling of the population within a few years. The search for adequate policy responses and actions related to the management of urban growth is actually one of the main declared objectives of the national governments of Third World countries, as well as of international organizations. Nevertheless, up to now urban development research and projects have centred mainly on megacities, while small towns almost completely lack planning on how to accommodate people moving from the surrounding rural areas and how to provide them with services [1]. Ordinary management of or - at best - upgrading already-existing urban contexts are generally the objectives of local administrations, for whom planning the urban growth represents an unattainable goal, due to the lack of financial resources and technical capacities.

Local administrations, international aid agencies and NGOs operating in small towns of Africa propose generally only small-scale interventions (urban projects) or sectoral programs (i.e. infrastructural improvement, site-and-services, slum upgrading and - only seldom - public housing provision), rather than a consistent and organic activity of urban planning. Furthermore, these sectoral programs are not always present: they generally follow environmental, political or socio-economic disasters. Therefore, they are often "emergency programs" through which a considerable amount of money is used to resettle the population affected by floods, civil wars, droughts and famine. To cope with the problem of housing big numbers of people in a short time, international aid organizations and national and local governments often adopt foreign-designed, mass-produced and pre-packaged housing solutions [2].

Resettlement programs, as well as other sectoral interventions, are generally designed for major urban centres of the Third World and then automatically transferred to small and intermediate towns without any attention to the specificities of these typologies of human settlements. If these programs demonstrated to be inadequate even for those centres for which they were expressly formulated [3][4][5], they are far less suitable to the small towns. These settlements are generally planned on a two-dimensional grid, which is applied on the territory without considering the often-complex morphology of the place and existing natural elements (i.e. vegetation and water bodies). In the landscape there is no centre, neither reference points nor signs remarking identity or educating to beauty or pleasure. The grid is generally designed by a regular, perpendicular road network and is composed by the obsessive repetition of

the same module: a small housing plot provided with basic services (generally just a "wet core") and, sometimes, one small house for the whole family. This typology of housing policy and programs refer generally to cultural models that were originally developed for Western, industrialized countries and are passively inferred to southern, tropical, rural contexts. General assumptions and blanket solutions to housing needs are likely to suffer from being out of place or even face total rejection. These pre-packaged housing models pay no attention to local housing cultures, indigenous dwelling types and patterns, and ignore the environmental context of the proposed architectures. Therefore, accustomed to a different relationship between internal and external space than that of a conventional Western house, a people may experience a disconcerting loss of "environmental control", which comes with being unable to relocate or alter the dwelling to suit specific social or climatic conditions, as they have been accustomed to do. To live in a Western-styled house requires the fragmentation of personal spaces and the adoption, at least in part, of the lifeways of another culture; though to adopt them may mean the loss of cultural and personal identity. As a result, individuals find themselves physically and psychologically uncomfortable in modern structures. In particular, it is generally not taken into account the design of spaces able to host large family structures (often polygamous) and to integrate different activities within the plot (living, cultivating, livestock holding, handicraft goods producing, domestic selling etc.), that are the base of most subsistence strategies of poor people of the Third World [6].

Furthermore, houses are often built with industrial materials. The widespread use of concrete, steel, prefabricated elements and other "modern" materials and building technologies has demonstrated not to be affordable by local economies and to cause also the loss of cultural heritage and traditional abilities of local manpower. Furthermore, in contrast with various traditional architectural forms and locally available materials, modern technologies are less appropriate also from an environmental point of view, as they produce a less-balanced relationship between the building and its environment. This consideration is not only valid in relation to the "lifecycle assessment" of industrialized vs. traditional constructing technologies, but also in relation to their performances in terms of climate control and to the provision of indoor comfort in tropical countries [7].

RESEARCH CONTEXT, OBJECTIVES AND METHODOLOGY

Small towns in Sub-Saharan Africa are essentially towns of farmers, in which "modern" administrative functions, provision of infrastructures and services, and development of strictly "urban" economic activities are found in a society whose features are typically "rural". This occurs also in Mozambique, where processes like globalization of the economy, modernization of transport and communication infrastructures, rapid urbanization, and administrative decentralization are deeply transforming both the physical structure of the *vilas rurales* (literally "rural towns") and their socio-economic and cultural characteristics. Therefore, African rural towns present a hybrid settlement pattern, in which urban and rural characteristics melt together. Rur-urbanization can be explained as a process of population growth and of strengthening the urban features of the small towns, while preserving relevant rural characteristics [8].

These rural characteristics, in fact, are not residual, but instead represent a structural component of the rural towns that strongly influences local economies, lifestyles and also physical settlements. This dialectic in relation to the rural-urban polarity is absolutely dynamic, since it changes constantly as a consequence of the relevant globalization processes that small towns are experiencing.

It can be affirmed that vernacular settlements and traditional housing typologies are still widely dominant in the landscape of African rural towns. Nevertheless, "urban" and "modern" settlement patterns and housing models are being imported as a consequence of ongoing global processes. The result is a dialectic relationship between vernacular traditions and modernization that expresses itself in a complex mixture of traditional and modern elements. The aim of the paper is to investigate this topic in relation to a specific context: *vila de Sena*, a small town situated in central Mozambique, along the Zambezi River. Sena belongs to the rural district of Caia, Province of Sofala, where the University of Trento has been involved in the last ten years in different spatial planning activities within a decentralized cooperation programme that promotes cultural, technical and administrative exchange between the Provinces of Trento and Sofala, Mozambique. Analysing the evolution of vernacular traditio towards "modern" housing typologies allows to provide some suggestions, which aim to support a spatial planning process that is culturally appropriate and responds to the specific characteristics of this particular typology of human settlement.

Main research methodology is a household survey that was carried out in summer 2008 as part of the drawing up of the Sena master plan. The purpose of that survey was to understand the peculiarity of this town, which showed a complex mix with reference to the urban-rural polarity. The survey was made through a sample of 47 households randomly selected within the administrative boundaries of the town, covering the whole built-up area on the basis of its density. As a research tool, a structured qualitative interview was proposed to each household. Most of the questions required open answers, being more appropriate for the explorative character of the survey, the low educational level of the interviewees and the object of the analysis. Each interview took almost two hours and was made directly at the household. The language used was generally Portuguese: only in some cases local technicians of the Spatial Planning Office had to translate from Chisena. The interview was structured in the following five main topics, each comprising of a set of questions: housing typology; household composition; income and expenditures; access to socio-cultural-recreational services; use of environmental resources. The selected topics were associated with the spatial organisation of the town. The elaboration of the results consisted first of all in the codification procedure, referring answers to

interpretative categories. It was possible, then, to complete the database, and to carry out exploratory data analysis, which allowed households to be classified according to different typologies. The classification of the households was made on the basis of two different, but interdependent, criteria: monetary income and main occupation. According to these criteria households were divided into four typologies, representing different social groups and whose existence depends respectively on: 1) subsistence agricultural activities; 2) both agricultural and non-agricultural subsistence activities; 3) hybrid urban activities; 4) modern activities. Moreover, through the survey it was possible to identify and analyse three different housing typologies emerging in the rural town, as described in the next Section.

EMERGING HOUSING TYPOLOGIES IN SENA

One of the results of the survey in Sena, was to notice that housing typology is a reliable indicator of the social groups the household belongs to. Three main housing typologies, in fact, were individuated, each corresponding to a different social groups emerging in the rural towns.

Traditional mudzi

Households that rely almost completely on subsistence agriculture accompanied by odd jobs or other low-income non-farming activities (such as agricultural trade, street trade, handicraft, employment in the construction sector or in international aid), belong to the subsistence sector. Due to the very low monetary income, less than 1 euro per day, the survival of these households crucially depends on the direct and free access to natural resources: land for agriculture, water, firewood, cattle breeding, healing plants, building materials. The housing typology of households belonging to the "subsistence" socio-economic sector, is the traditional *mudzi:* the vernacular housing typology that consists of different small buildings, called *palhotas*, settled around a wide, circular open space (see Figure 1).
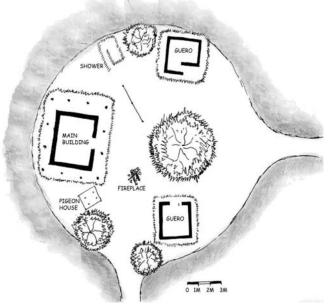

Fig. 1 - Graphic and photographic survey of a traditional mudzi.

The settlement grows up progressively together with the family. In the case of a monogamous family structure, the *palhota principal* is reserved to the head of the family, his wife and little children. When children grow up, they move to their own *palhotas*, one for the women and one for men. Generally at the age of fourteen, the now adult son builds his own *guero,* the *palhota* where he will receive his wife once married, according to a patrilineal social organization of the *sena* population. In the case of a polygamous family structure, the head of the household must equitably provide each wife with her own *palhota.*

Indoor spaces are very intimate ones, used just for sleeping and for shielding oneself from sunlight or rain during the day. Moreover, indoor spaces are also used to store agricultural products. For all these reasons, *palhotas* have only small openings to allow the cross-circulation of the air while keeping the interior in shade. All daily activities are conducted outdoors, in the central open space where firewood to cook is placed, cereals and straw dry over a *mesa alta*, guests are received, domestic selling takes place, animals scratch about or are locked inside fences, and children play. It is interesting to notice how each *mudzi* adapts to the family structure and also family's different activities contribute to the personalization of the compound.. The central space is generally dominated by big, leafy fruit trees, like *massaniqueras* and *songolas*, under whose shadow most of the domestic activities take place. Nature, in general, is an integral part of the compound, tracing boundaries among different properties and, moreover, is essential in improving the outdoor microclimate.

Palhotas have generally very small dimensions (2x3 m, 3x3 m, 3x4 m, 3,5x4,5 m) and the indoor space consists of just one room, without any articulation of the inner space. Sometimes it is possible to find porches surrounding the *palhotas* completely or just on one side. These porches, which can also be closed in by wooden *estacas* or vegetable reeds, provide one of the most-used areas of the compound and it is usual to find householders eating or resting in the shade provided. Porches also have the function of protecting the walls of the building from atmospheric conditions. Latrines are generally to be found, while each compound has a spiral element made of *caniço* (vegetable reeds), that provides a place to shower in privacy. Building techniques commonly used in this housing typology are the vernacular ones. Walls are generally made of earth, according to two main techniques: *tijolo cru* (sun-dried mud bricks, or adobe) and *pauipique* (wood frame, filled with mud and stones). In a few cases it is possible to find walls made of wooden posts covered with *caniço* or *capim* (straw). The roof is always a wooden structure made of thin, circular posts covered with *capím*, and can have two or four pitches.

All families declare that the small buildings had no monetary costs, since the men of the family are normally engaged in collecting building materials (such as mud, wood and straw) freely in nature, in processing them and in building the *palhotas*. The whole family, however, participates in the construction process, sometimes with the help of other relatives and neighbours. More than one interviewed householder underlined the point that children also help as they can, by bringing water for example, because it is important for them to get acquainted to the process in order to be able to build their own *guero* once they become adults. Once the *palhotas* are finished, women are responsible for ordinary management and housing maintenance, such as soaking earthen pavements with a solution to drive insects away, or to add further mud layers to the walls after the rainy season, sometimes decorating them with *matope* of different colours.

Hybrid mudzi

Households belonging to the social group depending on "hybrid urban activities", accompany the agricultural activity with a non-fam middle-income activity, in public administration or in the trade sector. In this case we are talking of the sale of agricultural produce or of the handling of a banca movel (stall) in the market. In this typology, family-based trade is no longer traditional street commerce but it presents modern characteristics and assets. Motorcycles are bought and trucks are rented to allow transportation of goods, which can be manufactured goods coming from other provinces or other countries. Income ranges from 850 to 5,700 Euros/year. Once more, in this typology there is recourse to natural resources as firewood, but these resources are not collected directly but bought at the central market or from street vendors.

The housing typology that better represents this group of households is what has been here defined as "hybrid *mudzi*" (see Figure 2), that testifies to the higher complexity of this social group, the households of which—as seen— deal with both modern and traditional activities and present a complex mix of urban and rural behaviours. Among households belonging to typology 3, in fact, savings are mostly invested in the improvement of the housing conditions. This means the substitution of some of the traditional *palhotas* with more "modern" constructions. Modern buildings are made of conventional materials (bricks, corrugated iron sheets, cement, mortar and plaster). The result is a hybrid *mudzi*, where the traditional spatial organization of the housing compound shows a mix of traditional and modern constructions. Generally only the main *palhota* is substituted with a modern building, since the construction of a new building is very expensive and skilled manpower must be paid to build the house, due to the lack of knowledge related to "modern" building techniques. Among the surveyed hybrid *mudzi* of this typology, no one was provided with electric energy, but they all had a shower (or rather, a place to have a shower) and a latrine.

Conventional house

The 8% of the interviewed householders are modern traders and form the socio-economic élite of the town. These households have a much higher income in comparison with the others, which can exceed 28,000 euro/year. Modern trade is endowed with a shop in the central market, or consists of transactions carried out at national or international level given the proximity to Malawi. Transportation means appear as motorcycles and trucks, rented shops and waged employees are associated with this activity. As in the previous typology, there is recourse to both natural resources and manufactured goods. The class of modern traders expresses an aspiration to an urban lifestyle, and this is testified to by the housing typology spontaneously adopted by all households of this class: the "conventional house" (see Figure 3).

This time there is a radical change with respect to the traditional *mudzi*: a new, modern house is built, with a different organization of indoor and outdoor spaces, conventional housing materials, electric energy and so on. The "conventional house" of *Sena* is reminiscent of those that dominate the landscape of the peripheries of Beira and other major cities of Mozambique, in terms of shape and constructing materials. The "conventional" housing typology consists generally of a main building and a kitchen. These two constructions are bigger than the traditional ones and the main building presents a spatial and functional articulation of the inner space. In this typology, in fact, *gueros* do not exist and, when children grow up, they have their own room (one for males and one for females) within their parents' house. But even if a kitchen is built, households declare that they still prefer to cook open air. The buildings are generally grouped perpendicularly, forming an "L" that creates a rectangular open space in the middle of the plot, which is much smaller than in the *mudzi*. Generally the plot is surrounded with a high, massive wall that has only one access to the main road in order to protect family properties and trade goods, that are often stored in the compound, from robberies. Generally there are no trees or presence of vegetation within the plot. In these housing compounds there is always a latrine and a shower, generally located at the back of the main building, and at least all main buildings are provided with electricity.

Compared to the small, one-room *palhotas* of the *mudzi*, "conventional" buildings are bigger (7x4m, 7x6m) and present also a spatial and functional articulation of the inner space. The roof can have two or three pitches with different inclinations, the latter reflecting the most-used housing model of the periphery of Beira. Furthermore, the buildings of this typology are made up of "conventional" building materials, mostly *tejol quemado* and *chapa,* that is bricks for the walls and corrugated iron sheets to cover the roof. These buildings, which are sometimes also plastered and coloured, are not constructed by the family members any more, as specialized manpower is needed. The costs for the realization of this housing typology are very high. For the main buildings alone in Figure 3, which has a dimension of 7x6 m, the household declared to have paid 45,000 MTn (1,185 euros).
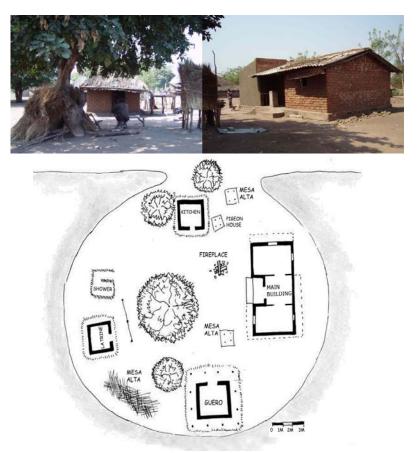

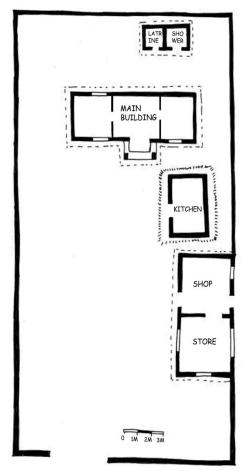**Fig. 2** - Graphic and photographic survey of a "hybrid mudzi".

Fig. 3 - Graphic and photographic survey of a "conventional" housing compound.

PERSISTENCE AND TRANSFORMATION OF VERNACULAR HOUSING CULTURE

An important characteristic of the rural town is the persistence of vernacular settlement patterns, housing typologies and building technologies, which are widely dominant in the landscape. Traditional *mudzi*, in fact, constitute the great majority of the built-up area in Sena, are closely related to rural settlements and give to the small town its particular character of being a big rural village.

The vernacular compound is the only affordable option for most of the population. since it is constituted of small buildings made of materials that are freely collected in nature (i.e. mud, wood and straw). A *mudzis* spatial relations reflect the socio-economic organization of the *sena* population. Small *palhotas* organized around a big open space are expression of the polygamous structure of the families, which rely on more than one housing unit and the livelihood strategies of which take place prevalently in the compounds outdoor area. Moreover, vernacular building techniques are based on natural materials available *in loco,* which is an advantage from both an economic and an environmental point of view. These constructions, in fact, are "sustainable", since they use only renewable resources the regeneration capacity of which is not overcome. No energy is employed in the extraction and processing of building elements, such as sun-dried mud bricks and wooden posts, which also do not present the problem of waste disposal, since they can be

completely recycled. Furthermore, vernacular technologies present a better bioclimatic behavior of the building shell in relation to the local tropical climate. The earthen walls and the straw roof, in fact, work as a natural air conditioning system, since they absorb the humidity of the air during the night and the dew at dawn and, when the sun shines on the building, the evaporation considerably reduces the indoor temperature. With respect to the high daily temperatures, both materials (earth and straw) present good insulating properties, while corrugated iron sheets have such a high coefficient of thermal conductivity that one should advise against using them in such climatic conditions. Also nature, that is widely present in vernacular compounds, has the function of improving the outdoor microclimate. Through leaves transpiration and production of shadow, the temperature is mitigated and the humidity of the air is balanced. Finally, vernacular building techniques produces the valorisation of local material culture: local resources, technical skills and housing heritage. They are also simple enough to allow the self-building process that is widely diffused in Sena. This process guarantees the uniqueness of each housing compound, which is personalized according to family needs and tastes. Moreover, self-construction has important social and cultural implications, since it reinforces community linkages through mutual aid and is also an important step in the initiation of the householders to their adult life. Summarizing, vernacular housing typologies combine comfort, aesthetics and functionality, in the respect of the local housing culture.

Anyway, it is evident that the traditional housing culture is evolving towards the model of the "conventional house". This model, that is considered more "modern" and "comfortable", is spontaneously adopted by those among the population with a medium or high income, whose aspiration to an "urban" lifestyle it exemplifies. The household survey in Sena highlights how the housing typology can be considered a reliable indicator of the households lifestyle and socio-economic level, as well as of its "urbanity" rate: families belonging to the subsistence sector live in vernacular rural housing compounds (*mudzi),* while households of the capitalist sector invest their savings principally in the improvement of the housing conditions. In some cases, some traditional constructions are substituted with "modern" ones *(hybrid mudzi),* while in the case of the traders, the socio-economic elite of the town, a new modern house is built, which is reminiscent, in terms of shape and building technologies, to those of Mozambique cities peripheries.

Conventional typologies represent a radical change with respect to the local housing culture. In particular, the relationship between indoor and outdoor spaces changes considerably: the indoor surface is between 1.5 and 5mq for each person in the traditional *palhotas* and 10-11 mq for each person in conventional houses, while the outdoor space is strongly reduced in conventional compounds. This is surely related to the fact that families with high income do not need a big outdoor space to carry on subsistence activities.

Through the survey, it was also possible to analyse the subjective perception of households in relation to their housing condition. It emerges clearly that there is a general belief among the population that vernacular housing typologies are synonymous with poverty and all households have the aspiration to improve their housing and living conditions, that for most of them this means building a conventional house. In particular, it is to be noticed how the corrugated iron sheets are generally preferred to straw to cover the roof, in spite of being far more expensive, producing an uncomfortable indoor environment, and being very noisy when it rains. They are still inaccessible to the majority of the population, but from the interviews it comes out that they are preferred not only because they are more durable, but also because they are a symbol of well-being.

It is important to underline that the actual trend is not only determined by the spontaneous action of medium- and high-income social groups, but it is also induced by the resettlement programs, such as the *"Programa de Reassentamento da população afectada pelas cheias 2007"* [9], which actually subsidize and offer technical support only if a "conventional house" is built. This is also contributing to the introduction of the "conventional housing" model in the imagination of the people as synonymous of "modernity", "comfort" and "well-being", fomenting its emulation in individual choices.

CONCLUSIONS

Vernacular settlements and dwellings are regional and cultural and are subject to many influences. Resources, technology, climate, environment, lifestyles, values and meanings all play a part in shaping settlements and dwellings built by the people. The vernacular habitat, then, is the product of the interaction and harmonious fusion of all these tangible and intangible aspects of a community [10]. This holistic approach, spontaneously adopted by the people in their self-building activity, is typical of the vernacular settlements. Addressing the issues of local settlements and architectures that communities developed spontaneously over time is unavoidable for planners dealing with prevalently vernacular contexts, which small towns of Sub-Saharan Africa are.

Vernacular settlement patterns and architectures evolved over millennia and still represent the majority of the built environment among many cultures. Nevertheless they are disappearing fast, since they are being replaced with settlements inspired by Western models. The latter, as seen in previous Sections, are no longer intimately related to the characteristics of the place and of the community that lives it. On the contrary, they are producing a growing homologation of the living environments at global level. The risk of the present trend is not only that of providing settlement solutions that are inadequate to local contexts, but also of losing vernacular traditions, which are a precious world heritage of urban diversity, material cultures and skills.

Nevertheless, in African rural towns there is still a strong connection with traditional values and locally-rooted

ways of life, something that is exemplified by vernacular settlement patterns, housing typologies and building technologies. These constitute the great majority of the built-up area and give to the rural town its particular character of a big rural village. They represent an important cultural heritage that has almost been lost in major urban centres, where settlements and housing typologies have developed instead towards Western models. Even though the adoption of housing typologies and building technologies inappropriate to the local context is not as evident in African small towns as it is in the cities, their early signs should be taken seriously into consideration.

The analysed trend demonstrates the need to govern the rur-urbanization process with adequate integrated policies and a coherent urban planning activity in which the "spatial" component has a strategic importance. The central idea proposed for the spatial planning activity is the enhancement of vernacular settlement patterns and housing typologies and their integration with emerging urban features.

Two main reasons determine the choice of this strategy. First of all, the preservation of the traditional forms of spatial organization is essential to support the survival strategies of most of the population, therefore spatial planning within African rural towns should support "subsistence" settlement patterns. The fact that 70% of the population belongs to the "subsistence" economic sector calls for the deeper comprehension and protection of all those forms of spatial organization of the urban territory that allow the poor households to carry on their different survival strategies. Therefore, protecting "subsistence settlement patterns" could ensure a dignified standard of living to the whole population and avoid the risk of *favelization,* in particular in regards to the newly urbanized households. This risk is particularly high in Sub-Saharan African rural towns, in fact, where demographic growth is generally associated with the phenomenon of "urbanization of poverty". According to this strategy, promoting housing typologies inspired by local material culture is a central issue in spatial planning and management within the rural towns.

The second reason for enhancing the vernacular tradition through spatial planning is that the existence of large-scale vernacular settlements offers the opportunity to experiment with urban development patterns that are more appropriate to local housing culture and endogenous resources than the "conventional housing" model that is currently being proposed. This planning principle suggests the promotion of housing typologies, building technologies and construction processes that find their inspiration in the vernacular tradition. Protecting and reinterpreting the vernacular tradition by culturally appropriate means, in fact, is a useful strategy to avoid the indiscriminate colonization of Western models. The focus is on the introduction of culturally-compatible changes and, therefore, on the full involvement of the population in the decision-making process.

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DEVELOPING THE NEW STRATEGIC MASTERPLAN FOR HERAT (AFGHANISTAN)[1]

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ABSTRACT

This paper illustrates the results of the collaborative relationship between the University of Florence and the University, the Department for Urban Development and the Municipal Council of Herat, aimed at the formulation of a new strategic Masterplan (SMP) for the city of Herat. In particular the paper illustrates the systematic programme of analysis undertaken to construct an updated information base on current socio-demographic and territorial situation of the urban area, and some findings testifying the deep changes that have been taking place in the last decades. Moreover, the paper deals with a more detailed description of the analysis process and the proposed strategic actions as regards to the transportation urban sub-system.

INTRODUCTION

This paper illustrates the results of the collaborative relationship between the University of Florence and the University, the Department for Urban Development and the Municipal Council of Herat. This relationship was formally set in motion in 2004 on the initiative of the coordinator of the project, who became aware, while conducting research surveys in Herat, of the absolute lack of recent socio-economic and demographic data relating to the city[2].

Afghanistan's tribulations and complicated history since the late 1970s have, in fact, resulted in a drastic reduction in room for manoeuvre as far as research is concerned, with a resulting huge gap in knowledge on all aspects that are not strictly military regarding life in the country. By the time the Taleban fell, the country had been deeply transformed; yet it was still a puzzle, not only because of an almost complete lack of reliable data but also because of the difficulty in rebuilding structures capable of managing all the needs of a civil society.

The construction of an updated information base appeared, then, to be of the utmost urgency for Herat, where a tumultuous expansion process of the urban area was underway. This process, begun during the Taleban period because of the relative security of the city, was subsequently accelerated, generating a profound but problematic transformation of the organization and layout of places [1].

Multiple changes occurred in the absence of any updated instruments for governing the territory. The city's urban policies referred to the old Masterplan, devised at central government level in 1963. This plan was based on an orthogonal grid and envisaged such significant expansion that the Ministry of Culture called for a revision, a request which was only partially met in 1978. In the absence of other instruments, this Masterplan, aspiring to western urban models, effectively influenced the city administration in their day-to-day running of the territory. Apart from the fact that such plan had little to do with the local context, it was found, after the fall of the Taleban, to be totally inadequate for tackling the new problems of the area. This had a negative effect both on the results and the image of public action.

These considerations fuelled our conviction that the main priority of this cooperation was to ensure the availability of updated instruments for governing the area, both to deal with the new problems arising from the expansion of the city, and to stabilize Herati society according to more ordered and enduring models of civic togetherness.

Thus, the University of Florence developed a special cooperation project which aimed to offer theoretic, methodological and technical support to local entities engaged in the important role of managing the territory, while at the same time offering training to personnel.

In 2011, with the financial support of the *Direzione Generale per la Cooperazione allo Sviluppo (DGCS)* of the Italian Ministry of Foreign Affairs, the University of Florence, in conjunction with the Department of Urban Development, the University and Municipal Council of Herat, undertook a systematic programme of analysis and planning of the urban area, aimed at the formulation of a new Strategic Masterplan (SMP) for the city of Herat.

As the name suggests, this is a planning approach which, far from being based on a static vision of urban space, is an attempt to harness the most significant aspects of change and development, ensuring, at the same time, the deepest consideration of the specific geographic, cultural and social aspects of the area within a multidisciplinary approach.

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[1] This article is a joint project of the authors. The sections "Introduction" and "Socio-demographic aspects and condition of real estate" have been written by Mirella Loda. The section "Transportation issues and strategic actions" has been written by Mario Tartaglia.

[2] The members of the Florentine team are: Mirella Loda (Social Geography/Project coordinator), Gaetano Di Benedetto (Urban Planning), Manfred Hinz (Intercultural Studies), Massimo Preite (Urban Planning), and Mario Tartaglia (Transport Planning).

According to this approach, the first macro-activity of the SMP-project was aimed at analysing the current social and territorial situation of the city. The analysis was based, as far as the scanty existing material permitted, on the perusal of existing literature and documentation. The themes dealt with were the physical environment, economic prospects and cultural heritage. Only for the latter was there already a vast collection of accurate documents, thanks to the hard work carried out in Herat by the Aga Khan Trust for Culture, who courteously allowed us access to their data on material heritage.

For many other areas of city life it was necessary to compile the database through direct surveys. In particular, the following direct surveys were carried out: 1. Household survey, 2. Mobility survey, 3.Traffic survey, 4. Study on the availability and conditions of real estate, 5. Study on property values, 6. Study on urban facilities (schools, hospitals, etc.), 7. Study on urban utilities (power network, water system, etc.), 8. Study on transport infrastructures and services (road, parking, public transport, etc.), and 9. Study on intangible cultural heritage. Moreover a model was developed of the demographic evolution of the city up to the year 2051 and – through photo-interpretation of satellite images – an analysis was carried out on land use in the Herat area.

In the following pages we will confine ourselves to sum up some of the main findings of the surveys on socio-demographic aspects and the condition of real estate and to illustrate data and planning proposals related to mobility and traffic. A complete description of the research findings and of the planning proposals of the SMP is contained in [2].

SOCIO-DEMOGRAPHIC ASPECTS AND CONDITION OF REAL ESTATE

The household survey was conducted between October 2010 and February 2011 on a random sample of 3,083 households and 22,102 individuals (51.3% male, 48.7% female). On the basis of the collected data, the total population living in the 12 Herati districts can be estimated at about 493,600 inhabitants. In 1979 Herat had 140,300 inhabitants, a figure that testifies to the city's intensive growth in the last decades.

The Herati population is very young (like that of other Afghan cities). The distribution of the population according to age shows that 68% of the dwellers are under 26, while the percentage of older people is only 3%. As a consequence, a high rate of population growth is predictable in the next two-three decades. The gender-based age pyramid shows that in Herat genders are more evenly balanced than in other Asian countries. These statistics would seem to exclude the widespread practice of selective abortion as in China and India, where selective abortion still results in a lower proportion of women over the whole population (e.g. in 2001 in India 927 girls were born for every 1000 boys).

In Herat a fast-growing population lives in a relatively small space. Therefore, the density rate is very high – just shy of 84 inhabitants/ha. This figure is high even compared to crowded Asian cities like Shanghai, and especially considering that Herat's city centre is characterized by low buildings with max. 1-2 storeys.
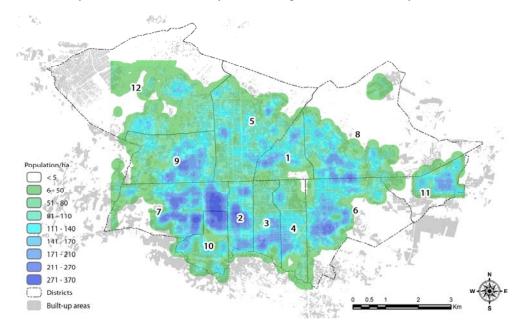

Fig. 1 - Population density in Herat, year 2011. North-Western area of District 12 not represented
(*Source:* our processing of the Household survey data, 2011).

The distribution of population in the urban area is obviously not homogeneous (Fig. 1). Areas with very high population density (blue areas) are located especially in the old city (up to 200 inhabitants/ha), in the adjacent neighbourhood to the north-west, and also in the newly developing urban areas.

On average, Herati households consist of 7.1 individuals. The figure is impressive when compared with western societies (for example the Italian figure in 2010 was 2.4). In the majority of cases (85%), the household comprises two generations; in one out of eight households three generations live together in the same unit (extended families). One-generation families are extremely rare. No clear tendency to separate generations has been observed. In 1/3 of cases, collateral branches of the family live under the same roof. The tendency of different family branches to become independent will greatly contribute to improving the housing demand in the future.

There are no clear distribution patterns according to household size in the urban area. Families with more than 8 members are distributed fairly regularly throughout the whole urban area. The relatively high presence of families with more than 10 members in wealthy districts shows that large household size is not correlated to low income and poverty. On the contrary, the extended family proves to be still deeply rooted in local culture.

The average monthly income per capita is 1,530 Afghans (roughly 29$)[3]. However, the average value conceals huge differences in family income. Almost 1/4 of Herati families can be considered wealthy, because their members each have a monthly income of more than 1,900 Afghans. One fifth of Herati families are very poor, because their members have a monthly income equal to half the average value (18$) or even less.

For more than 2/3 of Herati families the main source of income is labour or clerical work. Entrepreneurial activities are the main source of income for one family out of five. The percentage of families living on yields or annuities is very low (2.3%). Due to the high number of students and housewives, a low percentage of people at an active age (15-65) contribute to the family income.

It is very interesting to note how the occupational structure varies according to gender. Despite the fact that women represent more or less 50% of the student population (figure that testifies a great improvement in woman condition compared with the Taliban time), they play a very minor role in economic activities. Very few women embark on a profession after school or university and two out of three become housewives. However, women who enter the work market occupy relatively well-paid and prestigious positions.

A little fewer than 2/3 of households live in a house they fully own; 1/3 of households live in a rented house or are paying off a mortgage. Rented homes are mostly located in the old city and in the area to the north–west.

People express a very high level of satisfaction with regard to their living conditions. Above all, appreciation of their own neighbourhood is extremely high. On average, however, opinions vary according to the different aspects considered. Retail, and above all, religious infrastructures are considered to be highly satisfactory. On the contrary, schools, streets and health infrastructures and services are to some extent in critical condition.

Libraries and parks, followed by sports facilities, are among the amenities that people most miss in their neighbourhood and that would improve the quality of their lives. As expected, opinions regarding missing amenities vary according to age. The under-25s attribute more importance to libraries and sports facilities and less to traditional forms of entertainment like tea-houses. Opinions about missing facilities vary even more according to gender. Women attribute much more importance to sports facilities and to playgrounds for children.
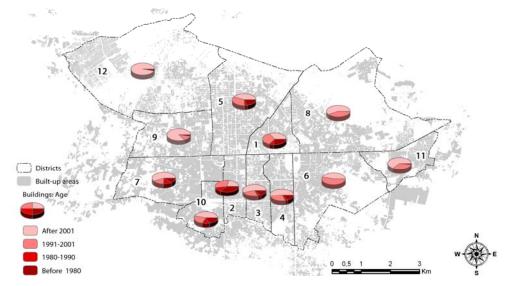

Fig. 2 - Age of buildings in Herati districts (*Source:* our processing of the building survey data, 2012).

Similarly to what has occurred in the demographic and social sphere, the profound transformation of the city in recent years has also affected its physical size and form, radically altering the urban landscape at a particularly accelerated speed following the fall of the Taleban regime. In order to implement the new Strategic Masterplan of the

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[3]According to data of the World Bank, in 2011 the average per capita income (at nominal values) in Afghanistan was 400$. The latest National Risk and Vulnerability Assessment-NRVA survey (Spring 2007) indicates that 42% of the population lives below the poverty line.

city, it was thus indispensable to carry out a survey on the extent and conditions of real estate. The survey was carried out between October 2011 and January 2012.

On the basis of the findings, the number of buildings in the city can be estimated at 54,841. It can be seen from Fig. 2 that a very large portion of the existing real estate was built recently: 54% of the total has, in fact, been built in the last 10 years. The pre-conflict buildings which, in this context, can be defined as 'historical', are concentrated in the centre of the city.

The urban landscape is still characterized by fairly low buildings: more than half have only one floor (above ground) and only one sixth have three or more floors. In accordance with traditional architecture, one sixth of buildings have a habitable basement which is useful during the very hot and very cold seasons.

Traditional one-storey or, at the most, two-storey houses still characterize in particular the historical quadrilateral; buildings in modernist style, again with one or two storeys, can be found especially in the area of 1940s urban expansion to the east of the city centre. Buildings with several storeys, recently built according to international styles are mainly to be found in the outer limits, particularly to the north west of the centre, while in district 12 (where the percentage of buildings erected since 2001 is as high as 96%) there is the highest percentage of buildings with three or more storeys. This building type is very common also in many interstitial spaces in almost all districts, occupying spaces which were previously empty, or substituting ancient buildings. One of the features which most characterize the new buildings is the sloping roof, in line with a widely imitated European taste and far removed from traditional architectural styles.

With regard to basic utilities, the condition of buildings, while showing a vast improvement in recent years, is still problematic. Almost all buildings are connected to the electric grid but blackouts occur because of insufficient capacity. In addition, just under two thirds of buildings receive water from the public aqueduct, while more than half still get their water from the well. As regards wastewater, only in 12% of cases does this flow into septic tanks, and in 1.87% of cases into a cesspool, with resulting environmental consequences.

The surveyed buildings generally contain a very limited number of dwellings: more than half include only one, the others from two to four. Overall, it can be estimated that there are 128,145 dwellings in the area of the 12 Herati districts.

The inhabitant/dwelling ratio and inhabitant/room ratios show average occupancy rates which, however, differ greatly according to district. To correctly assess the occupancy rate, it should be borne in mind that the average dwelling size is small: two thirds measure under 100sqm (5% less than 50) for families which are, on average, very large (7.1 individuals).

The collected data regarding the level of satisfaction among inhabitants with regard to their home show that the level of satisfaction is high on the whole, though not as high as that shown for neighbourhood. Overall opinions on homes, as for neighbourhoods, are broken down according to different aspects, but in this case the differences between one aspect and another are more marked.

In the analysis of different aspects, respondents surprisingly express a strong sense of security associated with their own home. It is very interesting that, while in the overall assessment there is a certain gradient in level of satisfaction according to territory– differing according to the aspects considered – there is no territorial gradient in the assessment of security level.

Consistently with the very high level of satisfaction with the neighbourhood, the respondents expressed a high level of appreciation with regard to aspects such as 'position', 'accessibility' and, to a lesser extent, 'equipment'. Rather more critical, instead, is their opinion of the size, state of maintenance and appearance of their home, especially in the south-western quarter of the city.

From a synoptic vision of the territorial gradient, we can see that in the south-east and south-west districts the level of dissatisfaction is much higher than average, signalling particularly critical situations in the urban context as a whole. From all the results, we can deduce that the high degree of neighbourhood satisfaction illustrated above is based first of all on strong feelings of social and ethnic belonging, rather than on the quality of local infrastructures and amenities, or on the quality of the own home. A crucial role is certainly played by a particular form of 'social capital', i.e., by the certainty of being able to count on the support of a wide family and social network in the immediate vicinity, in dealing with an external situation which is problematic in many ways and even threatening. The proximity of numerous relatives is a reality for a large part of the population, with percentages which oscillate between 25% and 40% of the total.

The importance assigned to a parental and social network and a healthy appreciation of the neighbourhood, together with a relatively critical assessment of the characteristics of their own homes would seem to indicate that in the future people will try to improve their living conditions by investing in their home (enlarging, building upwards), rather than moving to other urban areas.

TRANSPORTATION ISSUES AND STRATEGIC ACTIONS

The strategic approach followed for developing the Herat Strategic Masterplan is based on a long-term vision: a sustainable growth for a performing city. The identified values - economic, social, and environmental sustainability – led to the definition of objectives and actions able to realize the shared general vision. Under this perspective, the

planning procedure entailed a sequence of steps, which led from a survey of the existing situation to the identification of the developing scenarios and the main problem areas, right up to the formulation of appropriate action to resolve them.

With regard to the transportation urban sub-system, the surveys mentioned in Section 1 have been realized about daily people trips, traffic flows, urban transport infrastructure (roads, parking, facilities, etc.), and public transport services. The collected pieces of information, joined to the surveyed data about population and other urban issues, allowed to achieve a comprehensive analysis of the current status of the Herat's transport and mobility.

Furthermore, a fundamental step in planning transport structures to ensure a city's efficient and sustainable development is the estimation of demographic changes in the urban population over the same time period as the plan, which in our case is the twenty-year period up to the year 2031.

In order to formulate this estimate and draw future scenarios, a demographic model has been developed, based on the 2011 population survey data and appropriate modeling techniques [2]. Based on the future scenarios outlines, further transportation planning activities, including the identification of objectives and actions, have been performed with a multidisciplinary and shared process integrating all the other planning action lines developed within the Strategic Masterplan.

The current status of the Herat transport and mobility

Situated in the far north west of Afghanistan, Herat has for centuries been an important junction for overland transport [3]. The ancient trade routes of central Asia also passed through, and in particular those which linked eastern Asia with the Middle East and Europe. Nowadays the roads which connect Herat with the surrounding regions still follow the direction of the ancient trade routes (Fig. 3).

Apart from local roads, there is one road which leaves Herat and heads east to Iran, another which goes north to Turkmenistan, the northern half-ring of the so-called Afghan Ring Road in the north-west, the East-West Corridor in the west and finally the southern half-ring of the Ring Road towards Kandahar in the south.

Apart from the two links with Iran and Turkmenistan, these roads lead to the capital Kabul, situated at the opposite end of the country. Until 2011, all the roads connecting Herat with the rest of the country were so severely damaged by war events as to be impracticable. Only since 2002, after the fall of the Taliban regime, the government of Afghanistan has undertaken a vast investment programme for the reconstruction and improvement of the national road system, so that a large part of the road network around Herat has been recently rebuilt or rehabilitated.

Also in the city of Herat, like in the rest of Afghanistan, the maintenance and development of the transport systems have long been disrupted by socio-political events in the country. Nevertheless, in the last century, as Herat's urban fabric developed and changed around the ancient Old City (the original nucleus of the urban area), the road system grew accordingly. As a result of its rapid development in the last ten years, Herat nowadays has a road system which is neither completely homogeneous, nor clearly hierarchical and is not in a good state of repair.

Although some improvements of the city streets have recently been completed, the state of the road network is still quite bad. The major network amounts to a total length of around 410km, while the minor network (roads not suitable for motorized vehicle traffic) covers around 470 km in total.

At present, only some of Herat's streets are surfaced. The percentage of paved streets equals less than 20% of the whole network and less than 40% if we only consider the major network. In addition, the condition of the paved streets is rather poor because of lack of maintenance.

Road signs are generally lacking in the city: many of the urban roads have no vertical signage. Most of the city streets have one carriageway for each direction, and almost all city streets have two-way traffic. In the Old City are the majority of roads one-way, mainly because of their limited width.

The levels of traffic that use the urban network are higher on the main access roads and in the city centre, including the Old City. In the northern part of the city and along the north-south axis which leads to Kandahar, the traffic is swollen by heavy transport vehicles (estimated at over 200 trucks a day) which cross the city along the two roads to Iran and Turkmenistan. This heavy duty traffic is due to the Herat customs house, located to the north-west of the city.

Parking is poorly regulated in Herat: if on the one hand vehicles are frequently parked at the kerb, there is, on the other, a scarcity of proper parking areas, especially in the busiest areas of the city. Street parking is used on most of the city streets, although the parking places do not generally have horizontal signage.

There are not many street areas where parking is prohibited, although there is no street parking where the narrowness of the street does not allow it, such as in the Old City. If the width of the street allows, double and triple parking is a common practice which is preferred to the use of off-road parking areas. A few off-road parking areas are present in the city, in the form of both street level parking and covered parking areas in one- or two-storey buildings.

Public transport has been operating for several decades in Herat city, using different types of vehicle – buses, minibuses, the so-called 'coaches' (large cars not really built for public transport), taxis, rickshaws – run by two different government authorities, both under the auspices of the Ministry of Transport and Civil Aviation.

There are three bus lines, with a distance between 10 and 15 kilometres each, and they all converge at the northern edge of the Old City. The minibus service consist of two lines, just over 10km each, both crossing the narrower streets of the Old City, while coach service is quite spread but mainly converging in the city centre. Taxis run along fixed service lines and offer a better service with regard to the quality of the vehicles, but they are more expensive.

Rickshaws are commercial vehicles which have been modified to take passengers; they offer few comforts and can take up to four people.

The commercial speed of public transport services in Herat is not high. Buses and minibuses travel at a speed of between 10 and 15 km/h and rickshaws around 10km/h. Coaches and taxis are faster, with an average speed between 20 and 40 km/h. The total number of passengers transported every day is around 180,000 broken down as follows: around 6% on buses, 11% on minibuses, 35% on coaches, 27% on taxis and 21% on rickshaws.

The overall conditions of public transport in Herat are not considered to be very good even by the stakeholders who manage the service itself. One of the biggest problems is considered to be the lack of coordination between the two government bodies which superintend the service and between these and the municipality of Herat. Another negative aspect is that routes and stops vary considerably and are not always honoured by the driver, who try to follow easier routes according to traffic conditions. The quality of both public transport stops and vehicles is in most cases inadequate to the needs of an acceptable public service.

A fundamental asset for the long-distance connection of Herat is the airport, situated about 10.5 km south to south-east of the city. Built by the United States in the late 1950s and used for military purposes in the last forty years, only recently the Herat airport has been rebuilt by the Italian cooperation with an extension and a paved runway and, in 2011, the addition of a new international terminal (ISAF, 2011). The airport is currently for mixed civil and military use and it is expected a very fast improvement of flight supply after the airport upgrade to international standards [4].

As regards transport demand, just over half of households in the city of Herat (51.2%) own one or more vehicles. The share of households owning a powered vehicle (car, minibus, motorbikes, rickshaw) is quite low (42.3%). Of the households that do not own any motor vehicle, 9.0% own just a non-powered vehicle (i.e. one or more bicycles) and 48.7% do not own any vehicles at all. Anyway, the most popular means of transport are two-wheeled vehicles, notably motorbikes and bicycles.

The overall number of motorized vehicles (car, rickshaw and minibus) is quite low. The average motor vehicle ownership per 1000 people is about 25. In terms of global outlook, this value can be considered as being very low respect to the top scale reference, the United States ownership rate that equals a little less than one vehicle per inhabitant.

Being the population of Herat more than 493,000 inhabitants, the number of overall daily trips surveyed in the city is about 654,000. In nearly every case, the trips are fully contained within the urban area (95.4% of overall trips).

Mobility mostly concerns young people in the 15-25 age group (39.3%). Trips involving very young people (6-14) are almost 26% of the total daily amount, whereas 26-35 year-olds make less than 15% of the total number of trips. The number of trips of those aged 36-64 is higher (about 19%), while older people do less than 2% of total daily travelling. The mobility of children under 5 is very low (0.4%). Nevertheless, the female mobility pattern by age is very different from the male one. The female share of total mobility is only 25% compared to 75% male share. It is interesting to note that female mobility suddenly decreases after the age of 25: about 86% of female travelling is related to the 0-25 age group, while only 14% of trips concern women who are 25 years old or older, and no daily trips are made by women older than 65 years old.

The most popular transport method by far in Herat is walking: just under 60% of overall trips are made on foot, about 18% by car, 15% by motorbike, less than 4% by bus and less than 4% by bicycle. Non-polluting modes (walking and bicycles) are equal to about 63% of overall mobility. This modal split pattern looks very different from the ones that we find in western countries, where the walking share is noticeably lower and the motorized modes share and the bicycles share are higher.

Most daily travelling is done for purposes closely related to systematic activities: the total of home-work, home-school, and work commuting is almost 90% of all trips. The highest share is for home-work trips (44.8%), followed by home-school trips (34.5%). Travelling for non-systematic purposes, such as medical, leisure, shopping and administrative reasons, amounts to 7.8% of the total. Although the number of daily trips for school purposes is very similar for both men and women, a very small percentage of women travel for work reasons. Travelling for shopping is also mostly done by men, while women make more trips for leisure reasons.

The overall surveyed net generation rate for daily trips in the city of Herat is about 1.3 trips per day per person. It is calculated as the ratio between the overall number of daily trips and the total number of residents. Compared to similar rates registered in some other world cities, it can be considered a very low mobility rate. Benchmark data are not so different between cities, and average at around two trips per day per person. Cities in developed countries have relatively high mobility rates, and it is suggested that a highly-developed transportation system leads to higher trip generation.

Future scenarios

Herat is moving towards rapid and substantial development which could be decisive in regaining its historical role as regional capital and key player in central Asia. As it moves forward, Herat must pay close attention to the transformation of its transport system, which is key to the economic and social growth of any city.

The demographic model developed during the Strategic Masterplan preparation showed that, within the considered timeframe (year 2031) the population will increase by about 130%, i.e. from approx.493 thousand inhabitants to more than 1,130 thousand inhabitants, due to the combined effects of immigration and births.

On the other hand, the urban fabric of the city of Herat cannot absorb an indefinite number of new inhabitants, but has limits to its capacity to absorb demographic growth. This corresponds to a maximum increase of about 210,000 inhabitants in the entire city (including some existing satellite towns bordering on the north side of the urban area), a figure which will be reached by 2021.

Rather than an enlargement of the existing city, the Masterplan undertakes to redevelop and reinforce the urban limits to prevent further overspill into the surrounding farming areas. It is thus proposed that the share of population which surpasses the capacity limit be substantially allocated to three new satellite cities outside the present urban area (Fig. 3). The three satellite cities, each large enough to cater for about 150,000 inhabitants, will be quite separate from the existing city and will not only be endowed with basic urban services, but all necessary facilities, making them real cities to all effects.

The expected demographic fast growth will dramatically increase the number of daily urban trips, while the planned allocation of a large amount of population in the external satellite cities will produce high concentrated traffic flows direct to the existing urban area. The modernization of lifestyles will probably lead to a substantial increase of the motor vehicle ownership rate, with a resulting increase of road traffic and congestion.

At present, the transport system in Herat is not adequate to its growth prospects. Decades of adversity have hampered the construction of new infrastructures and their correct maintenance as well as the establishment of efficient governance systems, resulting in a transport system which is severely and extensively lacking.

Nevertheless, it is expected that the connections with the rest of the country and with other countries will be completely restored in a relatively short time, and some important local project will be realized, such as the bypass road which will unite the two main roads for Kandahar and for Iran in the south-west quadrant (Fig. 3).

Taking into account these forecasted improvements, as well as the urban planning strategies that emerge from the need to allocate a large amount of population in satellite cities protecting the environment around the present urban fabric, and finally the expected changes in the size and distribution of traffic flows, some strategic actions have been proposed in the Herat Strategic Masterplan.

Strategic actions

The approach adopted by the Herat Strategic Masterplan is founded on the sustainability of social development, economic growth and the environment.

As regard the first issue, the actions envisaged by the Strategic Masterplan must guarantee, as much as possible, that all members of the community, whatever their income, social position, age or gender, have access to transport. Accessibility favours inclusion and social cohesion and is necessary to guarantee that the transport networks can effectively meet the whole mobility demand, with positive repercussions on the optimization of the urban system and its cost-effectiveness. In Herat, this approach requires attention to several specific factors, such as cultural aspects (in particular those connected with gender) and restrictions due to levels of income, which occur in all developing societies but are generally inferior to those in mature economies.

In the second place, the Strategic Masterplan in the transport sector must ensure that in pursing growth and development, the negative impact on the environment is kept to a minimum, avoiding the risk of impacting negatively on the balance between transport and environment. This kind of risk is generally greater in rapidly developing socio-economic systems like that of Herat, because of a more urgent demand for urbanization processes and the development of infrastructures and technology.

A third significant aspect is the balance between economic investment and the management of transport systems. From international experience it clearly emerges that in general, urban transport systems cannot be financially self-sufficient without some contribution from institutions. On the other hand, the effects of an efficient transport system on a community's economy will normally fully compensate for the financial imbalances of investment and management if the adopted strategy transcends a short-sighted, short-term approach. For this reason, the actions proposed by the Strategic Masterplan must be conceived with a view to the longer term, pursuing the maximization of the overall economic value of the urban system and its positive influence on the social and environmental conditions of the city.

Within this perspective, the actions relating to the transport sector are aimed to four main objectives.

The first objective is the consolidation and the development of Herat's infrastructural and organizational requisites as a key player in central Asia. Although this objective will be supported by the completion of several already envisaged government projects, the Strategic Masterplan indicate some further actions (Fig. 3).

One action is to optimize Herat's capacity to accommodate goods traffic through an area which will function as a logistics centre north-west of the city in proximity to the intersection between the bypass and the road to Iran. The logistics centre could house an intermodal terminal linked up with the soon-to-be-built railway network (see [5] and [6]) and customs house, the latter being currently located outside the municipal area. By locating them together in one site, all the functions connected with the handling of goods will be optimized, and the residential area will be relieved of heavy traffic.

Moreover, it is proposed to create a suitable railway network serving Herat, with connections to Turkmeninstan, Iran and the south of Afghanistan through Kandahar (Fig. 3). This railway should also connect the above cited logistic centre of Herat, the industrial area and the airport south to the city.

Finally, these actions should be supported by a substantial development of the airport including the full compatibility with ICAO standards for international traffic, the activation of flights with other countries, a further upgrading of airport facilities and services, the creation of modal connections with urban and rural transport (integration with community transport, creation of interchange car parks), the setup of air cargo links for the transport of goods. All these actions could considerably boost the city's key role, currently penalized by poor existing infrastructures.

The second objective is the strengthening and reorganization of urban transport - through the upgrading or creation of roads and car parks as well as the organization and regulation of mobility and interchange - to ensure that it is adequate to the mobility demand of Herat in terms of quality, transport capacity and management efficiency.

It will be necessary to address the network's current infrastructural inadequacy through actions to improve the physical conditions of the streets: road surfacing, efficient rainwater drainage systems, lighting, improved geometry and street furniture in all main and secondary roads.

It is also of vital importance to work towards the enhanced efficiency of the road network, by drawing up an adequate plan which guarantees optimized use improving the hierarchy of the sub-network of streets by reconnecting them and efficiently defining their sphere of use.
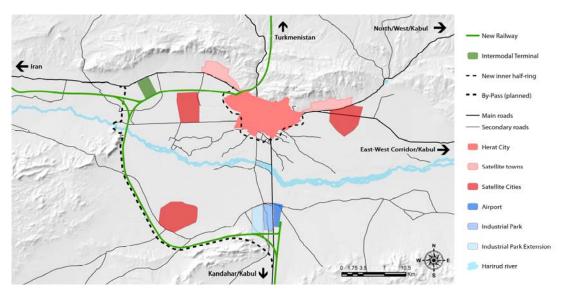

Fig. 3 -The new Herat's transport connections (*Source:* author's processing).

From this point of view, it appears necessary the creation of a half-ring road which will go from the north west to the east of the city and on to hug the south side of the urban area (Fig. 3). This road will connect extra-urban routes which come from four cardinal points and, being a fast road, will discourage traffic which neither originates nor ends in the city from crossing the urban area. This new inner half-ring, which can be accessed from the radial roads, will allow transit and express traffic to circumnavigate the urban area and avoid the centre of the city. At intersections there will be a public transport service, and the possibility to construct interchange car parks to allow speedy entrance to the city without the use of private cars and the relative problems of finding a car park.

The creation of a new inner half-ring can be accompanied by the targeting of areas of particular historical, social, cultural and environmental value which need to be protected from motorized traffic, the adjustment and improvement of the parking system, the creation of a possible network of cycle lanes to favour non-motorized transport which is more virtuous in terms of energy and the environment, the optimization of urban travel for the transport of goods, the adoption of smart technology solutions and Intelligent Transport Systems for managing traffic.

A third objective is the optimization of the urban public transport. If managed well, public transport is the most efficient type of motorized transport from the point of view of both energy and the environment.

In the city of Herat the rate of public transport use is extremely low, i.e. less than 4% of total trips, and the level of service offered by the public transport system is also proportionally low.

On the other hand, the very high rate of trips on foot, equal to about 60% of total trips and at present bolstered by the low number of private cars in the city, can be considered potential users of public transport. The latter must be compatible with the city's culture, affordable and offer a high level of service, being efficient, organized into main lines, i.e. routes where there is high demand, and lines which feed these routes. In other words, it is necessary to create the conditions to raise the level of public transport in terms of vehicle quality, regularity, speed and route preferentiality.

The level of service offered is, in fact, the main element which attracts transport demand. From the mobility data available and the expected increase in population rates, the mobility demand appears to be compatible with a light rapid transit (LRT) system running on its own tracks, separate from road viability system on a certain number of routes which access the city centre. The planning of such a public transport system needs to be joined to a reorganization of public transport in mixed traffic, that would appear necessary from both a management and functional point of view, and the

establishment of an automatic ticketing system, which is at present not available in Herat, in order to streamline trips and allow economic control of the transport system.

The fourth objective is the establishment of effective urban transport planning and governance through continual sustainable planning processes and the development of the managerial skills of local authorities. The achievement of the objectives of social, economic and environmental sustainability greatly depend on the correct planning and management of integrated multi-mode mobility.

It appears necessary to undertake the development of a sustainable Urban Mobility Plan, or rather a sectorial plan which aims to meet the mobility needs of the city, thus raising the quality of life [7], as well as the development of better skills among local institutions for planning and managing the transport system.

ACKNOWLEDGMENTS

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KNOWLEDGE AND PROCESSES OF SUSTAINABLE DEVELOPMENT FOR THE SOUTH-EAST EUROPE

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ABSTRACT

The South East Europe Transnational Cooperation Programme provides for the improvement of the territorial, economic and social integration process for the development of the South-Eastern Europe. It supports and contributes to the cohesion, stability and competitiveness of the area through the development of transnational partnerships and joint actions on matters of strategic importance, divided into four priorities as follows: innovation and entrepreneurship, environmental preservation and protection, improving accessibility and development of transnational synergies for sustainable development. The research activities on these fields are highlighting the close interaction between the diffusion of innovative interdisciplinary interpretations of the territory, and enabling sustainable forms of development in fragile areas and sensitive environments and landscapes.

The project "Access2Mountain", funded by the EU through the European Regional Development Fund (ERDF), perfectly matches within this strategy. The main objective of the project is to develop a model of sustainable development applied to the mountainous regions of the Eastern Alps and Carpathians, in order to support decision makers for implementing and proposing strategies and innovative modes of transport and sustainable mobility, with the aim of stimulating development of the tourism sector. UNICAM has developed a system to support the decision-making process through the definition of a valuation model tested on seven regions: the Autonomous Province of South Tyrol, National Park Gesäuse region Mostviertel (Austria), District of Maramures (Romania), Region of Kosice (Slovakia), North Hungary (Hungary), District of Rzeszow (Poland).

The model will play three roles: 1, critical analysis of the transport model in place; 2, critical analysis of the status and potential of the territories; 3, project of new scenarios for a more sustainable transport system.

The South East Europe Transnational Cooperation Programme contributes to the integration processes of the non-EU member states and supports projects developed within four Priority Axes, as follows:

• ***PRIORITY AXIS 1*** *FACILITATION OF INNOVATION AND ENTREPRENEURSHIP*	• Develop technology and innovation networks in specific fields • Develop the enabling environment for innovative entrepreneurship • Enhance the framework conditions and pave the way for innovation
• ***PRIORITY AXIS 2*** *PROTECTION AND IMPROVEMENT OF THE ENVIRONMENT*	• Improve integrated water management and flood risk prevention • Improve prevention of environmental risks • Promote cooperation in management of natural assets and protected areas • Promote energy and resource efficiency
• ***PRIORITY AXIS 3*** *IMPROVEMENT OF THE ACCESSIBILITY*	• Improve co-ordination in promoting, planning and operation for primary and secondary transportation networks • Develop strategies to tackle the "digital divide" • Improve framework conditions for multi-modal platforms
• ***PRIORITY AXIS 4*** *DEVELOPMENT OF TRANSNATIONAL SYNERGIES FOR SUSTAINABLE GROWTH AREAS*	• Tackling crucial problems affecting metropolitan areas and regional systems of settlements • Promoting a balanced pattern of attractive and accessible growth areas • Promoting the use of cultural values for development

The SEE Programme aims at developing transnational partnerships in matters of strategic importance, in order to improve the territorial, economic and social integration process and to contribute to the **cohesion**, **stability** and **competitiveness** of the region. To this end, the programme seeks to realize high quality results, and oriented projects of strategic character which are relevant to the programme area and objectives.

The Alpine and the Carpathian Conventions state sustainable tourism mobility as a challenge and call for cooperation on this topic among the countries of these mountain regions. Actually, sustainable tourist mobility is not well-developed in mountainous regions, especially in South-East Europe, as mountain regions are lacking sufficient sustainable transport facilities and facing major ecological impacts caused by individual vehicles.

Based on this fact, the project "Access2Mountain" was jointly developed under the leadership of the Environment Agency Austria. It aims at achieving *Durable environmentally friendly tourism accessibility* and connection to, between, and in sensitive regions of the Alps and Carpathians, benefiting all (potential) users through visualization of existing problems, awareness raising, development of common knowledge and creation of a monitoring base. In order to make this possible many and different are the objectives of the Programme, as follows:

- *Knowledge Objective* - Knowledge, awareness and capacity basis for transport problems and solutions with soft mobility established in mountain regions on different levels and for potential users.
- *Infrastructure/connection Objective* - Feasibility to increase soft tourist mobility in sensitive mountain regions exemplified in pilot regions; efficient, attractive, and competitive small railways and intermodal transport for tourism development in Alpine and Carpathian areas with similar problems but different backgrounds. Additional benefits for public everyday mobility and in some areas also for environmentally sustainable freight transport.
- *Transnational Mountain Regional Development Objective* - Strengthened peripheral mountain regions through innovative, competitive offers for –and raised income by– tourism, new accessibility possibilities and follow-up investment.
- *Environmental Objective* - Reduction of green house gases, pollutant emissions and segmentation, and thus sustained and improved quality of the environment.
- *Multi-level policy Objective* - Started/strengthened policy dialogue between/on transnational and EU level, policy development for the Carpathians; Strengthened strategic cooperation between two distinct transnational geographic areas and the Alpine and the Carpathian Convention.

With the long-term perspective of increasing sustainable tourist mobility, railway and multimodal connections will be improved and attractive offers created via pre-investment measures, pilot activities and investments. A policy dialogue on the sub-regional and EU-level, feedback loops with the (Interim) Secretariats of the Alpine and Carpathian Convention and the related working groups dealing with transport as well as the development of the Transport Protocol to the Carpathian Convention will ensure political and institutional sustainability of the project and broader dissemination in these two important European mountain ranges.

The project consists of 2 principle parts linked with each other: TRANSPORT & TOURISM.
Within the 8 Work Packages (WPs) every partners faces different issues and competences (Fig. 1), as follows:

WP 1 - Transnational project and financial management.
It covers all activities needed to coordinate project implementation, partnership and to fulfill the technical project obligations.
WP 2 - Communication activities.
Newsletters, brochures, conferences, and other activities and outputs are planned in order to ensure a coherent dissemination of project outputs, results as well as the publication of any other relevant material to be made available to the broad public.
WP 3 - Analysis, traffic flow models and follow-up tool.
This WP will examine the access to project partner regions as well as traffic flows. This shall support the creation of models that help to understand traffic flows in the areas and to what extent road traffic can be shifted to other modes of transport by including the effects of the respective regional pilot activities. The study will include a sensitivity analysis and an analysis of the environmental impacts of emissions caused by road
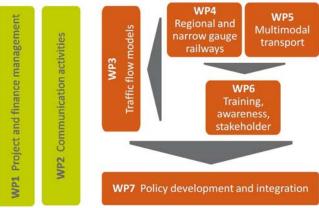

Fig. 1 - Work Plan.

traffic; an evaluation of the different transport routes; an assessment of calculation methods to be given to the regions will be trained to use this tools. First effects of pilot activities will be examined at the end of the project. Findings will be integrated in the final best practice collection of WP 5.The data provides important input for decisions on follow-up measures and investments.

WP 4 - Regional and narrow gauge railways.
The objective is to strengthen an efficient railway net in the Alps and the Carpathians with specific focus on small and narrow gauge railways to better use existing infrastructure rather than building new (road) infrastructures and achieving a modal shift for sustainable tourism in regions with natural assets is the objective of WP 4.
A collection of best practice examples on organizational, economic and tourism issues for small and narrow gauge railways in mountain regions, and an elaboration of concepts for "learning railway regions", will be fine-tuned and their implementation supported. The experience gained will be transferred to all partners and be integrated in a final best practice collection.

WP 5 - Multimodal transport.
Most common mode of transport to tourism areas in the mountains is individual motor car traffic, causing disturbances and damage. In many mountain regions, there is a lack of awareness and knowledge on how to avoid, respectively steer, individual motorized traffic and offer attractive public transport instead. This results in missing offers that allow or attract tourists to travel to, in or around regions by sustainable transport means. Train infrastructure does not exist in all regions or are badly connected. Additional modes of sustainable transport have to be used for tourists to reach their destinations. Sometimes bus connections for public transport are in place, though most are struggling for economic survival with deteriorating infrastructure and connections for tourism transport. Based on these identified lacks and gaps, this WP foresees a common learning based on existing best practices. This will provide knowledge and visions for starting work in the different pilot activities. Experiences made in the Carpathians and the Alps will be used as recommendations in WP 6.

WP 6 -Training, awareness raising, stakeholder integration, communication, follow-up.
Due to experiences of existing studies and projects there is a lack of knowledge on sustainable accessibility and mobility on different levels (destinations, guests, local people, etc.). Activities of this WP focus on the integration of the various target group to ensure the implementation and further work in sustainable mobility.

WP 7 - Policy development and cooperation.
Project results will be integrated into the work of the Alpine and Carpathian Conventions with regard to sustainable tourism and mobility. Further cooperation will be established, especially with the transport working group and the permanent committee of the Alpine Convention and the respective Working Groups of the Carpathian Convention dealing with transport and tourism issues, working on thematic protocols in these fields. Results achieved will be decontextualized and put into suitable formats for transfer in the Alps, Carpathians and other mountain regions such as the Balkans by seeking the involvement of UNEP (project partner EURAC) and Fedecrail. The Protocol on Transport to the Carpathian Convention will be developed. Recommendations for EU-policies in the field of sustainable mobility and tourism in mountain regions will be elaborated and adopted at the Final conference of the project.
This paper provides an overview on the Work Project n. 3, coordinated by the University of Camerino.

ANALYSIS, TRAFFIC FLOW MODELS AND FOLLOW-UP TOOL

The main objective of this WP is to identify a sustainable tourist mobility system in mountainous areas, the most fragile and delicate in terms of the landscape, in the Alps and the Carpathians. To this end, the study consists of three parts in a first phase, which then converge in an operating model for decision support:

- the analysis of the current transport system;
- the definition of the landscape characteristics of the model regions;
- the identification of a new model compatible with the landscape fragility in the places of interest.

Analysis and territorial characterization of the targeted regions and the current state of the transport system. Earliest strategic orientations related to the evaluation of the landscapes and tourist attractiveness.
In the first phases of the research has been done a targeted request of data to each of the model regions. In addition to the information received, for the establishment of a homogeneous framework of knowledge (Fig. 2), a deep research has been performed on the data sources available on the net and in the literature. In particular were so elaborate some basic summaries of the current state of the different regions in territorial, socio-economic, ecological terms.
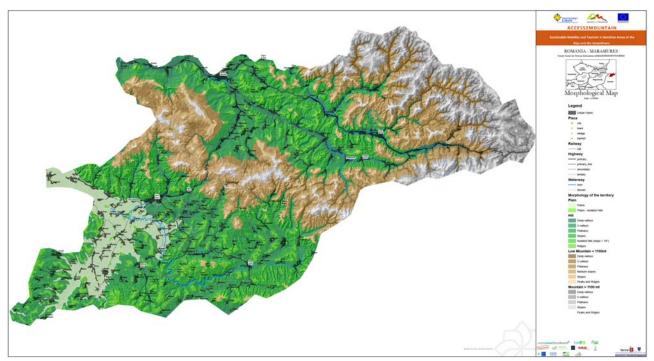
Fig. 2 - Maramures (Romania) |Territorial framework – Elevation analysis.

The study was implemented with the ***SWOT analysis*** (Streghts, Weaknesses, Opportunities and Threats) provided by the partners. Particular attention has been put on the definition of the landscape characteristics of the model regions. An effective approach to the local realities of interest for the project requires a dynamic and trans-scale consideration of their characters and problems, as well as the potential they present. This pertains to various regions. The notable historical, socio-economic, and environmental differences that are observed between model regions and their surroundings, the ecosystem fragmentation that has been brought about by development over the last century, and above all the largely shared intent to promote appropriate and sustainable forms of development for tourism and tourist mobility, confer a crucial role on the implementation of resources and infrastructures. This carries with it connections and interactions that often cross the confines of the individual resources, running into more or less wide contexts of different nature, and regarding, moreover, their co-evolutionary dynamics.

The first summary exploration of the areas in which current, or potential models of tourist mobility, could not avoid considering sufficiently vast and internally diversified territorial areas, in order to appreciate the different aspects characterizing them [1]: areas in general, with significant coexistence or proximity to natural spaces, different types of urban areas, or rural areas that are more or less affected by productive or touristic developments. The study showed how their spatial dimension can vary, including large forests or grasslands, more or less-protected natural reserves, villages or systems of interconnected villages, valleys crossed by local railways, or large tourist centres such as Tatra or Melk, etc. These areas are designated as "target sites" or observation areas.

Each site or area of observation exhibits within it a relatively large number of heterogeneous components (Fig. 3) that interact among themselves, even more for areas that are historically and biologically complex and diversified, and each component is well-characterized under the structural and functional profile. Because of this, it is important to avoid considering each one (such as large forests or grasslands, serial systems of villages, or cultural goods) as areas of observation rather than simple components.

In any case, however, in order to understand and evaluate what is there or what occurs in such areas, it is necessary to frame the areas in the contexts of interest (Fig. 4)., that is, the environments in which relationships of various nature (ecology, landscape, economy, society/culture, etc.) arise and affect the observed area. This obviously does not mean "confined" areas, but areas of different size and those that are largely overlapping.

The reference to contexts opens the way to an effective comparison of model regions. But it is necessary to avoid the temptation to "cover" the entire territory of each model region with contexts. The identification, analysis, and evaluation of contexts (even if they can then assume a more structured character, for example with reference to "landscape areas" foreseen in the Italian Code that are coherent with the concept of landscape sanctioned by the European Convention), in this phase they serve simply to correctly observe the sites in question. It should be noted that correctness is not guaranteed solely by the technical/scientific rigor of the observation, but also by the active participation of local experts and the community, which often boast important "implicit" knowledge of the place.

It is important to note that in this phase, the recognition of both the components through which the observed area speaks and the contexts in which it is framed, can be assimilated in an interactive process that makes use of "probes" - or better, hot spots - in a flexible and dynamic way, on which to begin the necessary close examination without the pretext of completeness or exhaustiveness.

Through direct sampling, landscape features of the various contexts have emerged [2]. When defining the model, it will be necessary to measure the evaluations relative to the different transport systems, both existing and programmed, on the basis of these initial characterizations, with particular attention to:

- the landscape character of the site (protected areas or other areas of natural or landscape value), its fragility, its carrying capacity, and the elements present that detract from the landscape or environment;
- current ways to reach the site, evaluating their possible critical limits;
- intersections and continuity within slow systems at the site in question and fast systems to reach or cross it;
- the contiguity or proximity between the site and other areas with more accentuated transformational dynamics.

The information related to each area of observation are synthesized in maps, several birds-eye view photographs, and the description of the landscape sense of the site, accompanied by explanatory figures and descriptions of the fragility of the sites from the naturalistic point of view.

Fig. 3 - Example of component, Starý Smokovec , Tatra Mountains, Slovakia.

Fig. 4 - Example of observation areas, Kosice Region, Slovakia.

CONSTRUCTION OF A MODEL FOR GOVERNANCE DECISION SUPPORT FOR A SUSTAINABLE TRANSPORT SYSTEM

The second phase of the project is still open and ongoing. As follows the methodology of the work for the construction of the model is presented. After a conceptual study of the model, the Maramures Region was selected as case study on which the model is verified operationally.

The A2M is a project aimed at outlining policies and measures for:

- on the one hand, ***promoting the economic, social and cultural development*** of mountain areas in the Carpathian area (in terms of reducing isolation and marginality, development of tourism and trades, revitalization of the economies and local cultures, etc.);
- on the other, and jointly to the first point, ***reducing or minimizing the negative impacts*** of traffic, transport infrastructures and the number of tourists, on the sensitive areas, the landscape, the environment and the natural and cultural heritage.

To achieve these goals, the working group has focused the attention on the definition of a ***Decision Support System*** that is composed of two parts:

1. **Guidelines** and indications for the definition of strategic scenarios useful to the designers in the definition of proposals for access to tourist destinations. The definition and construction of a guiding-vision (map), that focuses on the current state, the ongoing dynamics, trends, and changes of the territory, is the base for the definition of guidelines for the designer and the policy-maker in definition of the first draft proposals of the new organization of flows, focusing on specific crucial interventions that will lead to the implementation of the strategies (increases/decreases of pressures on an area, new accessibilities, infrastructure improvements and upgrades, new innovative forms of transport other than the existing ones).
2. **Model of analysis** of the various proposals that the planners or policy makers will introduce to evaluate the sustainability and environmental compatibility of choices. The model, which is an interactive tool, will never replace the role of responsible autonomy of designers and policymakers, but it will support them during the decision-making process, warning against the possible risks and impacts, potential or latent. It has the

character of extensibility and adaptability, even in the case of any future updates, and provides an explicit interaction between technical procedure and policy makers. The Model will ensure a triple role of:

- critic analysis of the infrastructural system current in place in each region;
- critic analysis of the state of the targeted territories of interest and their potentialities;
- project of improvement of the transportation system.

The UNICAM research group decided to proceed towards the construction of the decision support system by using a System Thinking (ST) approach. This is a rather popular approach for addressing complex processes, including planning. It is often used to supply a set of tools to address social, economic, ecological, and political challenges, aimed at developing effective Decision Support Systems (DSS) to improve policy making. According to ST theory, an independent system is analyzed by taking note of: the whole system, its constituent parts, and their interactions [3].

Such an analysis is expected to identify the specific internal structure of the analyzed system. ST considers that a specific internal structure can be held responsible for regular *patterns of behavior* (POB) characterizing the situation under investigation. ST assumes that similar POB arise in a number of different situations, but they can be linked to specific system structures (which are, in turn, held responsible for the observed POB).

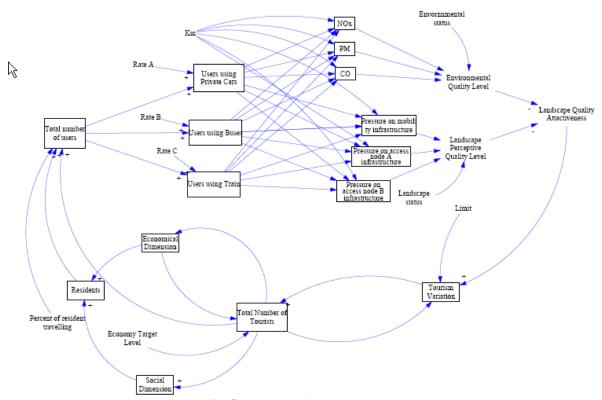Therefore, ST can be considered as an effective problem-solving method, to be used in complex management situations.

Fig. 5 - Example of the model structure.

The process of Systems Thinking and Modeling (STM) includes the following 5 steps:

1. problem structuring;
2. causal loops modeling;
3. dynamic modeling;
4. scenario planning and modeling;
5. implementation and organizational learning.

The most appropriate instrument used to describe the complex set of relationships among variables in a system is represented by the parts of the systems known as "loop diagrams", which (when implying both the transmission and the return of information) can be called feedback or causal loops. These diagrams help to represent circular chains of cause and effect that create closed loops within an actual system.

In the case of mountain areas in the Alps and the Carpathians analyzed in the framework of A2M, the work group tried to isolate four domains (Fig. 2) which participate in shaping the overall sustainability performance of the local mobility and tourist system in each region.

SELECTION OF THOSE SUSTAINABILITY INDICATORS FOR THE EVALUATION OF THE PROPOSAL

Through this model the infrastructure and transport systems can be analyzed and valuated, both in place or in project [4]. In both cases the model can be applied on small stretches of infrastructure of variable geometry. Typical information that this decision support system might gather and present includes:

1. *Driving forces* - To achieve the best level of sustainability the model user can act on three levers: the number of users, the different modes of transport, and the spatial distribution of the flows, that requires a constant dialogue between the algorithm and the geographical reference system. The users are divided among tourists and resident users, and the modal splitting includes: car, train, bus, bike, ...
2. *Pressures* - Pressures are deeply related to the modal splitting, and therefore they change according to the typological diversification of the transport modalities. The different pressures are: land consumption, noise, carbon dioxide, nox, particulate, frequency, speed, landscape usage.
3. *Sensitivity Indicators of the territory to the pressures* - The Sensitivity Indicators for a territory crossed by an infrastructure, are defined in both cartographic and numeric manner. They are conditioned and influenced by the landscape and environment character of the current state of the area. The different sets of sensitivity indicators are geo-referenced on **complex base maps**. These maps, through operations of overlaying, allow the operator to obtain a complex and articulated database of risks and impacts (scenario), by using query tools of GIS data (such as the intersection), for each section of an infrastructure.
4. *Impact* - The definition of the impacts of the different pressures on different parts of the territory (which comply with different degrees of fragility and vulnerability to the same pressures) is characterized by the following set of indicators:

   - the ecological balance, the consumption of the essential resources and the physical environment,
   - the human health, the well-being and the quality of life at the individual and collective levels,
   - the quality (identity, legibility, panoramic views) of the landscape and the natural and cultural heritage
   - the local economy of the territory.

Landscape-related indicators

   - *speed impact*: indicator of the impacts of the speed of vehicles on the perception of the landscape by an external user.
   - *Noise impact / silence quality*: indicator of the quality of silence. This indicator determines the impact degree generated by the transit of vehicles by road or rail.
   - *Crossing speed landscape p*erception: indicator of the perception of the landscape depending on the crossing speed.
   - *Infrastructure construction quality*: indicator of the quality of the construction of the infrastructure.
   - *Landscape capability*: indicator of the ability of a landscape, or part of a landscape, to be modified without negative effects on its own character. This capability can change degree, depending on the type or nature of the changes. The Landscape Capability is specific to a particular type of change or development. The Landscape Capability depends by: i) the Overall Landscape Sensitivity, which is the intrinsic sensitivity of the landscape itself, regardless of the changes that can be made on it; ii) the Landscape Value, which is the value attributed to the landscape by the national and local laws, and the recognized system of values, such as: the silence/quiet, the isolation, the naturality, the scenic beauty, and the local context [5].

Environment-related Indicators

The relationship between different categories of indicators is necessary on the evaluation of the impacts of the mobility system on the biodiversity. The first collects those indicators related to the infrastructure and traffic (e.g. structure of the edges of the roadway, traffic volume, etc..); the second, those related to the ecosystems affected by the presence of infrastructure and traffic (e.g. abundance and distribution of species, modality of dispersion etc..) [6].

   - *Infrastructure Permeability,* that detects how the infrastructure interferes with the movement of the species. This indicator refers only to the construction aspects of the track and therefore, it does not depend by the use.
   - *Noise,* that describes the effects of noise on the different animals communities, even at a certain distance from the source.
   - *Speed,* that directly affects the risk of collisions between vehicles and wildlife. A higher speed increases the likelihood of accidents.
   - *Frequency:* the traffic volume that directly affects the permeability of the infrastructure, because it is in direct relation with the investment risk of wildlife, and with the escape behavior of the different species.

The ecosystem-related indicators are useful to define the "Sensitivity" of the various parts of the territory to the pressures described above. This sensitivity will then be determined by:

- characteristics of the vegetation communities;
- presence of species/wildlife communities of special conservation interest, and/or particularly vulnerable to the pressures of the infrastructure system (large mammals, birds, amphibians, and reptiles);
- the role of the area in the system of ecological connections for large terrestrial predators (wolf, bear, and lynx);
- presence of areas of particular environmental value and institutionally recognized (AP, Natura2000, UNESCO etc.).

RESPONSES OF THE DECISION SUPPORT SYSTEM

The answers are nothing more than the various analysis of the proposals that the designer and the decision maker verify in a context of comparative evaluation with the current state of the territory and the other proposals. These proposals become the key variables of the model (or the levers on which to act) and they shall include:

- the intensity of the access flows to the destination areas, or to any sub-areas, or to individual nodes;
- the percent breakdown of flows related to the mode of transport (modal split): individual car, bus, train, bike, and walk;
- the spatial distribution of the flows, for subareas, for types of access nodes, for individual nodes.

The three variables are applied to the three models (interpretation, potential, proactive), on the basis of statistical data both available or estimated (also depending on benchmark). Specifically, for the purposeful model of evaluation of the design hypothesis, even alternatives, the variables could result from the strategic assessment that includes the issues related to variability of tourist attractiveness [7].

In conclusion, the "Decision Support System" (DSS) holds together the *STRATEGIC DIRECTIONS* and the *EVALUATIONS* of the operational model.

This system is configured, in the final version, as a ***tool for decision support***, able to interact at different design scales:

- wide area (region or sub-region);
- component (wide agricultural areas, tourist areas, mining areas, etc.);
- sites or structures (bridges, tunnels, etc.), specifically interesting for the Project.

The main function of the DSS is the ability of extracting, in a short time, useful information for the decision-making process from the analysis of a significant amount of data, and providing answers and guidelines for those who must take decisions of a project or, more broadly, of governance.

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BEYOND TOURISM:
RECOVERY OF THE HISTORICAL AND ARTISTIC HERITAGE OF HAVANA

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ABSTRACT

Declared by UNESCO "World Heritage" in 1982, The Habana Vieja is the largest historic center of colonial type stored in Latin America and even today retains its traditional urban footprint, harmonious juxtaposition of different architectural styles. Through this paper we want to analyze the work of recovering the historical center of Habana, officially launched in 1994 through the Master Plan entrusted "Historian of the Oficina de la Ciudad de La Habana" with the Spanish Agency for International Cooperation, the Government Local, universities and associations for international cooperation. Twenty years after the start of this project is to assess whether it was put into play an effective movement of regeneration, having produced processes of participation and human resource development and economic premises, or if the risk was to be alone "staged" for tourists, rearranging some houses and central services attractive major, "just as they once were" only to recall nostalgically the past and recreate "typical situations", imposed by mass tourism. There are many initiatives promoted from Italy, with the aim of creating opportunities for exchange and promotion of local sustainable development. As regards planning are promoted action as land resource management, planning, recovery of the historical-artistic heritage and urban services to enhance the identity of this country and encourage the participation of local communities. The historical, architectural and cultural heritage must be seen not only as "merchandise to show" but as a fundamental element for sustainable development from the perspective of social and environmental as well as economic, intended as a resource to protect and manage flexible and sustainable way to generate new opportunities, jobs and sources of income. If "pilot district", (near the Plaza de Armas) is promoted restoration in style as a "showcase" for the mass tourists, in other popular and industrial districts (barrios San Isidro, Habana del Este, Marianao, Guanabacoa, and San Miguel del Padron) interesting workshops are promoted redevelopment with the participation of local communities. Cuba is a needy country but with potential and tourism is a key resource, but if it's not properly channeled, may be detrimental to the identity. It's important to guide their choices towards sustainable development and to engage in a process of urban regeneration through technical engagement and social participation.

According to Eusebio Leal Spengler, *«Freedom is not possible without Culture»* and it is from this statement that are born the following reflections on the role of universities and research centers in the recovery and development of the city of Havana. The Republic of Cuba has long been included among the priority countries of the Italian Cooperation and currently, as a result of the resumption of bilateral co-operation signed in Rome in 2009 and in 2011, Italy – Cuba relations are also active in the cultural field for the enhancement and development of architectural heritage, with the main goal to reduce poverty and promote the investment of the funds directly to the territory.

In planning, the Directorate General for Development Cooperation of the Italian Ministry of Foreign Affairs (DGCS-MAE), scheduled for the period 2013 to 2015, the Latin America and the Caribbean is allocated 10% of the total funds available. The University Coordination for Development Cooperation (CUCS) is part of this dialogue, and sees the collaboration and support cultural and economic fundamentals of comparison.

Cuba, despite signs of opening of these last years, it remains a needy country but full of potential, for which the tourism has become a fundamental resource that, if it's not properly channeled, may be detrimental to its identity and increase still further the social and economic hardships. It will be necessary to address the future choices toward the Sustainability, valorizing and stimulating the cultural, environmental and human resources, also through the protection, development and management of the architectural heritage.

Thanks to the feedback received from international cooperation projects, especially in the Capital, there is a cultural movement, artistic and urban planning to ensure new results also in the process of local participation. Given the delicate political and economic situation, the question must be analyzed in a trans-disciplinary and cross-sectoral, with a cultural and organizational process, not easy to implement.

Founded in 1519 by the Spanish conquistador Diego Velázquez de Cuéllar, **San Cristobal de La Habana**, currently covers about 720 Km² , is welcomes more than two million inhabitants and is divided into 15 municipalities. Since the 90s of the XXth century, the international tourism recovery in Cuba, has brought considerable urban changes,

which has had to deal with urgent problems: the degradation of historical buildings and settlements; the devastation of particular value natural environments; the crisis of the local culture as a factor of identity; the emergence of social marginalization in so-called *"barrios insalubres"*. Thanks to the expertise of Eusebio Leal Spengler was promoted to the "**Plan Maestro**", focused on the redevelopment and preservation of the historic city center, offering culture and tourism as main elements main elements of the process of regeneration and urban development. Leal argues as *«Tourism exists since the time of Erodoto and perhaps even before, from the first human migrations, but tourism always presupposes a comparison, because the tourists want to see, want to have fun, want to spend time in a positive way, and it is therefore important to create suitable spaces. However the city of Havana was not to give tourists their spaces, had to share them. For this I have tried to follow a principle of solidarity: first for us, for the Cubans, then to offer the world our work…We are poor, it is true, but we believe that poverty has dignity when it is accompanied by solidarity.»* [1]

Twenty years (1994-2014) since the General Plan what brought the impressive restoration process and transformation of *"Municipio de La Habana Vieja"*, the colonial old town, declared UNESCO World Heritage in 1982, and endowed with an institutional, economic and legal self-employment structures?

Coordinated by the *Oficina of the Historiador de the Ciudad de you Habana*, in collaboration with the *Taller Nacional de Arquitectura y Urbanism*, this retraining has seen to participate of over 80 Countries, different institutions, university faculties, departments and research institutes, through active and interdisciplinary collaboration promoted by the *Agencia Española de Cooperación Internacional*.

The Habana Vieja occupies 50% of the city territory and represents the historical and architectural heritage of the city with a high value. Five centuries of history have characterized the territory compactly, structured by a dense network of palaces, streets, squares and monuments; the architecture reflects periods of great splendor, from the Spanish colonial, from baroque one to the neoclassical, until art déco. [2]

Fig. 1, 2 - View of the "Habana Vieja", from the center to the periphery.

Years of neglect, bad weather, lack of maintenance, deterioration and overcrowding have compromised this heritage, which is then inserted into a restoration program aimed at the promotion of "cultural tourism".

The principal purpose of building renovation was to contribute to the diffusion of the Cuban history and culture *«through the preservation of symbols and material and spiritual expressions of the nationality [...] and of the historical-artistic-cultural memory of the city, above all of its historical center, the largest colonial center of Latin America».* The process of redevelopment has initially focused "in the pilot block" (Plaza de Armas; Plaza Vieja; San Ignacio, Plaza del Cristo, Amargura, Bernaza, calle Mercaderes ...) through a stylistic restoration of most tourist streets, squares, monuments, religious complexes and buildings with typical *patios*, which accomodate now "cultural case", commercial, reception and catering, granted and managed by Habaguanex S.A. (company of Oficina).

Today, the investment plan for 2009-2015 previews the completion of the process through the consolidation of the most popular "barrios", the main centralities, the administrative offices and production activities and trade. [3]

From the town-planning point of view the financings and the efforts are concentrated on a structural, aesthetic and technological reorganization of the more popular zones; a slow and difficulty process of urban regeneration is begun block of houses by block of houses, also intervening on the residential buildings and on the back-roads, returning public spaces and small gardens, inserting again commercial activity and, so, recreating "pieces of urban life", outside of the more frequent tourist circuits. But the international proposed projects are often difficult to implement, in a territory where a monetary system, tied to mass tourism, with derisive benefits for the population (which has no direct access to convertible currency). The various initiatives of cooperation allow, however, to the Cuban people to activate itself turning passivity into active form, often silent but hard-working.

Many of the initiatives promoted inside of the Cuban territory, is carried out through the "**Program of Human Development at the Local Level of the United Nations (ONU - PDHL/CUBA**)", that has had beginning in 1998, on the base of an agreement between the Cuban government, the Italian government, the UNDP and the UNOSP, and is used in recent years as a frame of reference. [4]

Currently, about a quarter of the historic buildings have been restored, the main squares have been equipped, is revitalizing the waterfront (El Malecón), increased green areas and have created new centers and suburbs to receive the evacuees from the center (Vistamar, Habanamar). However there is still much to do and, currently, the urban plan is oriented toward a Special Plan for Integral Development (PEDI), designed not only for the promotion of tourism, but also to control the urban development of the context. The operational experience, derived from the "Plan Maestro", have been integrated with a strategic vision of each urban problems.

Fig. 3, 4 - Before and after the building restoration (San Ignacio – Habana Vieja).

The last five years (2008-2013) has seen many projects directed to promote a pragmatic strategy with concrete and multidisciplinary initiatives been born by the interchange of experiences among Italian and Cuban local community, to support of the active processes and democratic development of Cuban society. With the most recent projects it is tried to preserve and activate "the strong identity" of the historical center, not only for the benefit of tourists.

Italian Universities involved (Sapienza of Roma, Florence, Pisa, Venice, Milan Bocconi, Verona, Italy, Matera ...) along with various local authorities, have engaged in more than 50 projects to support the regeneration of the *"historic barrios",* for produced innovative perspectives in the service of the residents, as "the hope of rebirth and better quality of life". [1] You try to regenerate and to address urban and socio-economic development through small-scale projects (residences, schools, health services, cultural centers, small businesses, services related to sustainable tourism ...).

Fig. 5, 6, 7 - Typical local activities in the Habana Vieja.

Fundamental, in addition to the conservation of movable and immovable property, are issues related to the most degraded areas, to their property value and the study of sustainable models of recovery and development.

An important opportunity for international comparison comes from the **Annual Congress of Higher Education (Universidad)**, that promotes the development, collecting testimonies and projects on various topics, including architecture and urban planning, through the delegations of international universities, as well as cultural centers and cooperation. Thanks also to support learning activities and technological integration of *Institute University College de S. Geronimo in Old Havana* (2007-2010), the financing for building works joined the construction of a network for exchange of knowledge and best practices, as well as collaboration through design workshops and dissertations; training on methods and tools relief and filing; on consolidation techniques and models for reuse and tourism management, housing and culture. The main objective is the definition of some methodologies for integral recovery of the housing stock mainly based on few resources and materials available. [5]

Within the various phases of the PDHL/CUBA Program, the main activities concern the following points:

- promotion and intensification of dialogue and debate between the government, local, national and international actors and the local population;
- capacity building and structures of organizational-level cultural actors, technical and financial;
- promoting exchange of experiences, expertise and good practices between Cuban and Italian, European university networks;
- support creative processes and decision-making to preserve the artistic and cultural heritage and recovery of traditional building techniques;
- access to culture and student exchange networks , including through the application of new technologies; the improvement of basic local services, computerization and accessibility to telematic services (GIS enhancement of the historic center; multimedia class "Siena" in *University College of St. Jerome*; support to Gabinete de Archeologia de la Oficina and the Taller Nacional de Arquitectura y Urbanism);
- proposed model of urban planning and construction (block between the *streets Teniene Rey, Habana , Muralla and Compostela ...*);
- renovation of historic buildings and monuments (*Plaza Jesús María; ex convento di Belén converted into senior center; the historic Cultural Center Union Fraternal...*);
- structural and technological rehabilitation housing projects; networks and restore basic infrastructure and service to both residents and tourists; urban requalification of buildings, streets, squares, green areas, health services, community centers and schools (*Center Havana , Barrio Colon, San Miguel del Padrón ...*);
- promotion of micro- activities and revival of ancient local handicraft;
- new activities reception and sustainable type catering, respecting the historic center and the identity of persons (*casa particular, paladares*);
- first social housing project in partnership with APPI/PDHL, the Unity Investments Municipal Cadastre (UMIV), the *Oficina del Historiador* and other local institutions (Community center ...)

Fig. 8, 9 - Municipal Strategic Plan (2005) – Civic participation and design workshop.

In the diagram (Fig. 2) is the process of Municipal Strategic Plan, approved in 2005, to complete the restoration of the most touristic area with the regeneration of degraded *"barrios"* (in this case the *barrio Jesús María*), around the port and in the suburbs. These blocks, in fact, don't benefit of the financings of urban regeneration promoted by the *Oficina,* but there did many cooperation initiatives. To activate the direct share of the population in this regeneration process is not easy, but the different artistic and techniques initiatives can involve each according to his capacity and possibilities.

In the first phase have been implemented workshops of collective participation that illustrate the main renovation, construction and infrastructural works. Based on the approval of the inhabitants and with the technical contribution, is prepared a map for the evaluation of problems and potential, which are derived from guidelines of the strategic plan.

In the *barrio Jesús María* (28.500 ab.), as in the near *San Isidro* (12.631 ab.) and to *Belén* (14.600 ab.) through a cultural and technical exchanges into the "**Laboratory of Integral Transformation**" were purchased and made available materials building and means for restructuring in auto-recovery of residences; were recovered former convents and disused buildings to provide health care, scholasticism and recreational to the bands weakest (elderly, children, sick); centers of orientation and polyvalent areas are predisposed; cultural workshop are activated and of small business, tied up to the world of art, craftsmanship and urban decorum. [6]

In a context of limited availability of resources, it is worth noting that the Universities of Architecture involved were able to reflect on their role, improving their knowledge of management practices and urban and social development, as well as the construction techniques and the ability to repair and "do not care dissipative" in the yards.

Fig. 10, 11 - Barrio Jesús María - Habana Vieja (the architectural heritage degraded; cultural events).

Another Italian initiative that aims to promote the sustainable development of Havana as opportunities for collaboration and community participation is the "**Project Habana-Ecopolis**", promoted since 1998, at the national level by a consortium of institutions and Ong, as consultant in urban planning.

In particular is active with an urban rehabilitation process, not only in tourist area but in the poorest and degraded areas on the east side of town. Particularly, the scope of intervention includes territories with evident problems of degrade urban, environmental and social, as the unicipalities of *Centro Habana, Habana de l'Este, Regla, Marianao, Guanabacoa and San Miguel of the Padrón.* The main aim is to promote, with concrete actions, the improvement of living conditions and the diffusion of a great awareness and civic activity, always in the respect of the political and economic context. [7] The specific objectives concern, however, on urban interventions, services and infrastructure; on the natural environment; on the social and economic plan, strengthening the abilities and local tools for analysis, recovery and planning. In this programme the role of local communities is strengthened through the process of planning and administration of identity and local resources as key elements for sustainable development.

The main projects concern on different problem list:

- decentralization of tools and strategies for the future development of the territory;
- the participation of local communities in the urban regeneration; the project is based on the mobilization of territorial values (identity and resources) and subjects that express potential for self-development (*Consejos Populares,* neighborhood associations…);
- decentralization of services of assistance (ambulatory, cafeteria, training centers ...);
- implementation of systems for the protection and preservation of the natural, cultural and architectural heritage;
- enhancement of historical memory and tourism resources for the community (*Community Center of Marianao*, meeting space and self-management of cultural, educational and recreational initiatives...);
- urban regeneration; supply materials and technologies for the adjustment of private residences (the pilot project of the *barrio Colòn*);
- decontamination of unhealthy areas and construction of the sewer system (*barrio La Corea ...*);
- education in the management of the environment and natural resources (implement recycling of wastes, installation of solar photovoltaic and water collection system on the buildings ...);
- promotion of spaces, services and events of a cultural-recreational linked to religious syncretism and the "Cuban soul" (restoration of the *Museum of Guanabacoa*, *escuela de música y danza*; *Carnival Habanero y fiestas tipicas...*)

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Fig. 12, 13 - Project "Habana-Ecopolis" – Marianao (internal restructuring).

Fig. 14, 15 - Project "Habana-Ecopolis" – Marianao (installing solar panels).

Important was the participation of the **International Centre for the Conservation of Architectural Heritage - Italy (CICOP)**, which has coordinated and promoted the information interchange respect to the conservation and management of the historical-artistic, so much in the historical center that in the peripheral zones in the Habana.

It is noted, in particular, the restoration of the *Historical Museum of Guanabacoa*, defined as recovery of a typical example of Cuban architecture, container museum of history and Afro-Cuban culture.

Specialized courses and workshops were organized with the aim of promoting the relationship with the institutions and the local population and stimulate the exchange of professionals and specialists in the field urban and building.

In this way, trying to overcome the conception of the real estate value only for tourism and it motivates people to deepen techniques for sustainable development of their districts. The real estate, which, however is not for sale nor privatized, is seen as an important resource that through a sustainable restoration and management can produce jobs and local wellness. [8]

Fig. 16 - Historical Museum of Guanabacoa; Fig. 17: Barrio La Corea-San Miguel del Padron (urban and social degradation).

In recent years, one of the poles of greater urbanization is the district *La Lisa*, located in the metropolitan area, initially characterized by agricultural farms and family residences, but since 1970 has been turned into a planning laboratory and industrial areas, without adequate infrastructure and services. One of the more peripheral and degraded districts is San Agustín, consists of *"Edificios de microbrigadas"* in Soviet style, no proper infrastructure, services, recreational spaces and connections to the city. [9] Here, a very interesting project is promoted by the "**Laboratory LASA**" (Artistic Laboratory of St. Agustín), created by the artist Candelario, developed with Aurélie Sampeur. Active from 2008 it proposes projects of contextual art in the public space, it's an open laboratory and self-managed, without owners. Its particularity is the activation on the territory of integrated projects on different topics, from the art to the economy; from the educational system to participation; from the urban decorum to the environment. According to Aurélie Sampeur *«it's important to identify the cultural and historical-artistic patrimony, so that to preserve it and to transmit it to the future generations as resource...»* [10]
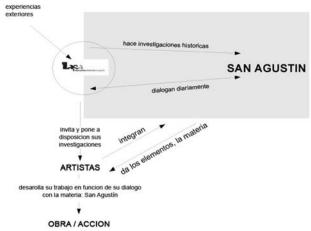

Fig. 18 - Operation scheme laboratory LASA.

Fig. 19 - Urban Regeneration Projects.

The particularity of "LASA" is, in fact, to integrate the knowledge of the urban context and the care of the architecture, public spaces and the environment as a project of Community to promote the upgrading and development of district. The laboratory develops regeneration through permanent and ephemeral works with particular impact on urban and services (building restoration; technology integration; maintenance and illumination roads; green project; artistic works, introducing a transport network with *omnibus*).

Fig. 20 - San Agustin – urban and social decay.

Fig. 21 - Initiatives to involve citizens.

The laboratory is a comparison of the participation and serious commitment, so that the transformations are of high quality, visible and integrated culturally and pragmatically to the context. "LASA" looks for the renewal and transformation of the district, through the overcoming of the economic limits and institutional influence on the arts. It seeks to create new interspace and interpersonal ties, through direct comparison between the artists, the society and the government. Despite the difficulties, the project has received widespread social feedback, and is supported by many international partener Embassies and higher education institutions, both Cuban and Italian (the Instituto Superior Politecnico Jose Antonio Echeverria CUJAE, the Goethe Institute of Havana, the Embassy Italian in Cuba, and the Italian Ministry).

CONCLUSIONS

In conclusion, addition to projects related to mass tourism, have started minor interventions, "barely visible" but almost necessary for urban quality. The role of Universities of Planning confirmed the responsibility of higher education and the cooperation as an opportunity for real comparison between different disciplines and professionalism.

Through these experiences, it's evident that this process, started twenty years ago, was not only a "staging" for tourists (partly conscious and sought), but has produce, also thanks to the involvement of Italian consultants, several initiatives aimed, on the one hand to bring funding, projects and a greater awareness among urban residents; on the other to a knowledge and interaction with the versatility and adaptability of culture and technique of Cuban population.

In a country accustomed to a total statism as Cuba, the involvement of the population made it possible to rediscover the rights, and the duties attached to a "sense of identity and community". Urban regeneration of Habana can, therefore, be understood as a tool for sustainable social development, beyond just financial profit related to mass tourism.

NOMENCLATURE

CICOP	Centro Internazionale per la Conservazione del Patrimonio Architettonico – Italia
CUC	Peso cubano convertibile
CUCS	Coordinamento Universitario per la Cooperazione allo Sviluppo
CUJAE	Cuba Universidades "José Antonio Echeverría"
DGCS/MAE	Direzione Generale Cooperazione Sviluppo del Ministero Italiano degli Affari Esteri
IILA	Istituto Italo-Latino Americano
INURA	International Network for Urban Research and Action
LASA	Laboratorio Artistico di San Agustín
OHC	l'Oficina del Historiador de la Ciudad de La Habana
ONG	Organizzazione non governativa
ONU	Organizzazione delle Nazioni Unite
PDHL/CUBA	Programme Local Human Development in Cuba
PEDI	Piano Speciale per lo Sviluppo Integrale
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UMIV	Unità Municipale di Investimenti del Catasto
UNOSP	United Nations Office for Project Services

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SAPIENZA MILLENNIUM. PROJECTS AND THOUGHTS.
UNIVERSITY OF ROME SAPIENZA AND THE INTERNATIONAL COOPERATION

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ABSTRACT

In January 2007, the University of Rome "Sapienza" is committed, through the enactment of the Charter and the principles of the Declaration of the mission, to forge links with international bodies and national cooperation, serving as a "University of the Millennium". This is one of the results of a working group set up by the University Council of International Relations, which has recognized the strategic importance of international cooperation for development, understood as the principal form of international relations, in virtue of the ethical and political commitments made by the international community for the reduction of inequalities and for the prevention and resolution of conflicts. Within this overall framework, we analyzed in the essay the activity of the High Level Course on the Millennium Development Goals, with particular attention to the third edition of the courses taken as the final result, an analysis report on a cooperation project between UN-HABITAT and Homa Bay, a small town on the Kenyan shores of Lake Victoria. The report was prepared by an interdisciplinary team of young professionals (Millennium University Studio Team) who, after following the course MDGs, conducted a reality studio for fifteen days in the town of Homa Bay. It is oriented to the analysis of the project LVWATSAN (Lake Victoria Water and Sanitation Programme).
This paper analyzes the results of the report and identifies the role of the MUST team and the role of the Sapienza University within a specific project of international cooperation, proposing an open debate on the ranking of Italian universities at a time of economic crisis and cuts the funds of international cooperation.

SAPIENZA, MILLENIUM UNIVERSITY

"Sapienza, University of Rome, adopts the notion of development as a common good based on the ethics of equality. Development must be pursued through programs and interventions that take into account the specific characteristics of individuals and social groups to whom they are addressed". "Sapienza University of Rome emphasizes the role of research and education in international development cooperation" (Sapienza Università di Roma, 2007). Article I and Article V of the Charter of Principles for International Development Cooperation, issued by Sapienza University in 2007, reflect the increased role played from universities in the world of international cooperation in last ten years. The role of universities as promoters of international trade has a long history that began with the overcoming of national borders through the Erasmus program since 1994 (born in 1987 in fact), then associated with the Lifelong learning program for students and teachers in 2007. One of the first initiatives addressed to the growing internationalization of University Sapienza was the 2005 launch of the first Global Studio in Istanbul, which was followed by two other editions in 2006 and 2007 in Sydney and Johannesburg. The Global Study involved the international participation of students in projects of redevelopment of urban fringe in host countries. Seven years after the signing by the 191 member states of the UN of the Millennium Declaration, Sapienza is committed, through a process of consultation within the University Council of International Relations, to become the Millennium University and thus to subscribe the commitment to pursue the Eight Development Goals in future cooperation projects. The promotion of a network of universities that share the same values and the willingness to give the boost to a course of higher education among different faculties have been the two main and immediate targets that Sapienza is committed to achieve.

The first edition of the *High Learning Course on Millennium Development Goal* was launched in 2009 and has been a good achievement of participants, both of student and professionals at international level. It 'was the edition of 2011, which actually enshrined the beginning of an official relationship with one of the major international agencies for cooperation UN-HABITAT, the branch of the United Nations dedicated to Human Settlements. The main support of UN-HABITAT has led to the promotion of a *reality field study* in the framework of one of the projects developed in Kenya, in the Nyanza region, in the town of Homa Bay. The study was attended by the group of fifteen young professionals selected at the end of the course.

The project LVWATSAN - Lake Victoria Water and Sanitation Programme - focused on improving infrastructure of solid waste collection and treatment of sewage. The peculiarity of Homa Bay was given from the presence of several international NGOs, including Doctors Without Borders, as well as from UN-HABITAT willingness to engage in an

active way local population, through the establishment of civic volunteer groups, whose main purpose was raising awareness of the population to health issues addressed by the project.

The work of the group MUST (Millennium University Studio Team) lasted for fifteen days and it gave birth to a report of analysis of the project LVWATSAN oriented according to the Eight Millennium Development Goals. More, it was used to identify the activities that, in the project itself, went in the direction of the achievement of the Goals. The work presented at the UN-HABITAT in Nairobi at the end of August 2011 is forthcoming to be published.

WHICH UNIVERSITY FOR WHICH COOPERATION

On the 3rd of December 2008 the General Director of Development Cooperation and eight Italian universities signed a Joint Declaration in order to pursue a common policy of cooperation, based on cooperation between universities and the General Directorate for Development Cooperation of the Ministry of Foreign Affairs of Italy. The innovation compared to previous policies in this field, where there were some universities already engaged in single projects of cooperation with foreign universities, precisely lies in the joint effort played from DGCS and the Coordination of Universities, which together gave birth to a concrete Italian system that can be beneficiary of funds as well as lender itself.

Three networks of universities were created throughout the country in order to more effectively coordinate the work. In each one of these three areas, a university was put in charge of being the coordinator: Politecnico of Milan and University of Pavia for the North region, Sapienza University in Rome for the Centre of Italy and the University of Palermo for the South area. The main advantage of this new organization is a streamlining of the economic and human resources (more universities can collaborate on a single project): thanks to this process the projects and cooperation initiatives promoted by universities in the field of development cooperation are considerably increased compared to usual national trend. In 2009 the project DaBaCU was put in place, coordinated by the Politecnico of Milan: it foresees online databases and web community for the collection and use of data on development cooperation of the Italian universities, and it embodies a useful tool for the promotion of activities of universities as well as seminars and conferences online.

The university is so totally part of international cooperation processes as a main character and as a carrier of concrete initiatives aimed at third countries in training and applied technology. This new role has been rediscovered and formalized also due to the reduction of dedicated funds from the Foreign Ministry for Development Cooperation from 2010 onwards. The 2010 financial law foresaw 210.940 mil of Euros for each one of the years 2011 and 2012, against 326.96 million in the previous one. In the attempt not to lose the wealth of projects and experiences due to that reduction in funds, a new kind of cooperation has been further developed that had not been fully exploited until that time, (the decentralized cooperation), which has seen primarily involved regions and local authorities. In this context, universities have been an added value and the so-called Italian-System has begun to play a significant role.

GOALPOSTS. SCORING POINTS FOR THE MDGs, 2011

The main target of the MUST group while drafting the final report was to translate into concrete action the commitment of Sapienza towards the Millennium Development Goals (MDGs). In this regard, an agreement was signed for cooperation between UN-HABITAT and Sapienza, in order to contribute to the monitoring of the achievement of the MDGs in the project LVWATSAN, through the participation of young academics and university students of the post-graduate study cycle. In a joint attempt to previous activities the purpose was to try to contribute to the deepening from the Must group on what really was a project of international cooperation and which were the ways of relationship and participation between the population affected by the projects and international bodies as promoters. The goal of primary importance for Sapienza was the creation of a typology of partnership that could be replied between the university, the local population and development agencies, in the view of cooperating on small international projects, in which to enhance the role young professionals graduates and undergraduates.

The choice of the different MDGs around which to build the analysis of the project LVWATSAN and its trend has been carried out based on the specific skills of the MUST group members. The chosen topics were selected as the most relevant to the project and as based on the opportunity of carrying out a concrete analysis through field observation, interviews, focus groups, and documents produced by the local and UN-HABITAT local and national offices.

- Improving income generation activities (MDG1)
- Improving nutrition (MDG1)
- Improving primary education for boys and girls alike (MDG2)
- Improving health conditions for all (MDGs 4, 5, 6)
- Improving access to safe drinking water and sanitation (MDG7)
- Improving environmental conditions (MDG7)
- Developing a LOCAL partnership for development (MDG8)

The preliminary work to the writing of the report was the visiting of two locations near the area of Homa Bay, Kisii and Bondo. The main aim was the understanding of the geographical and human dynamics that had led to the choice of that specific area as a possible beneficiary of a *water and sanitation project*.

Then, ten days were devoted to the observation, to interviews and study of documents relating to the town of Homa Bay and, at the same time, to the drafting of the report, accomplished in the last two days and presented to the UN-HABITAT headquarters in Nairobi on the 17th of August 2011.

The peculiarity of the work conducted in Homa Bay is detectable in the *recommendations* of each paragraph and in the main conclusions of the report. Each group has analyzed the actual reality from the point of view of the population and of the concrete effects that the project had produced or was producing, both from the point of view of local officials and national bodies promoters. Some significant differences were mainly detected at the level of the interpretation of the results that the project would have had on the city and its population compared to the funds made available; comments on the sustainability of the project in the long-run and of its effects once it has finished; the deficiency in some cases, of a more structured and integrated overview that did not take into account the most urgent issue to be tackled while forgetting other deemed as complementary; suggestions about the opportunity of any partnership with national and international private entities and the increase of local partnerships, especially among schools and international donors through mechanisms of sponsorship.

SAPIENZA AND DECENTRALISED COOPERATION: A THOUGHTFUL LOOK

The activities of Sapienza triggered by international projects can be classified particular academic domain theoretical and thoughtful research institutions to and proposals made by the analysis of the role of paper is limited to the project MUST and of the 2011, due to the greater ease information and official data, experience of the writer in the in the processes cooperation within that that is the support given from concrete actions project. The Sapienza in this experience of the reality studio of in finding as well as the direct project.

The timetable

The duration of the entire been of about a month, of of course and fifteen days of field. The latter was divided preparatory visits in three the area chosen for the Bondo, Homa Bay), in order idea of the system-project and benefits not only to the single major project activities had (Homa Bay) but also in the project MUST has which fifteen days *reality studio* in the into three days of different cities in analysis (Kisii, to make clearer the how it should bring city in which the concentrated surrounding areas.

> **How does a university cooperation program arises:**
> 1. **The initiative.** An Italian university makes the proposal to a group of other national academic institutions to cooperate on a project.
> 2. **The partnership**. The network of Italian universities just created looks for other international partners that deal with similar topics in order to implement a joint program.
> 3. **The action.** The result of the partnership is a network of universities that can cooperate. Increasing the number of participants to the partnership, the complexity of the projects will increase.
> 4. **The involvement of local communities.** Within the involved countries, the university network looks for other entities that can be co-players in the implementation of the project (local community, NGOs, informal sectors, artisan businesses, etc. (Ministero Affari Esteri, 2012)

The vastness of the project LVWATSAN was not followed from actions particularly diversified and therefore, broadly speaking, in every city the interventions had been more or less the same: the construction of drinking water reservoirs; preparation of drinking water supplies entrusted to groups from the weaker sections of the population; constitution of groups of *microcredit for sanitation* in order to make it easier for the construction of baths in the domestic courts and to improve the cleaning of the daily city market. Probably the need to keep costs down (and, as a consequence, the lack of the opportunity to make the staying of the group MUST last over the fifteen days provided) along with the awareness of wanting to have an overview on the problem that the project faced, led to the reduction of the times which mainly affected on the analysis of the interventions in the town of Homa Bay. The core of the study actually was the writing of the analysis report and of the comments to LVWATSAN within the overall area covered by the project. Although there was an almost complete homogeneity of interventions in different cities, the response of the population had been different. The analysis of the MUST group was intended to rely primarily on qualitative data obtained through interviews and meetings with the inhabitants of the various cities. In Homa Bay there has actually been the opportunity to manage meetings, interviews and visits to projects in a systematic way, but the same not happened in the other two cities. Consequently, the report has been affected by this imbalance, bringing inside more news and commentary on the work of UN-HABITAT in Homa Bay than in Bondo and in Kisii.

THE FOLLOW-UP

The work of the group MUST was entirely conducted in close collaboration with the local population, with the referent of Homa Bay of Multi-stakeholder Forum, a body of popular representation created specifically for the LVWATSAN, and with the local representative of the UN-HABITAT to Homa Bay. At the coordination effort and the willingness of these individuals to actively participate in data collection for the report, however, has not been followed by a follow up process of the project MUST either immediately, after finalization of the report (with the presentation at the headquarters of UN-HABITAT in Nairobi), whether as a result. Probably this distance between the strong demand for participation during the work and the lack of feedback, was due to the fact that the whole MUST project was a pilot one, the first of its kind carried out by Sapienza and therefore, with all the disadvantages and the mistakes of the case.

Unfortunately the lack of monitoring of the results and the impact that the analysis conducted by the group had (or had not) about the project and the beneficiary population, could have affected the entire work, dismissing it as a constructive experience for young professionals and researchers who formed the group MUST, but of little relevance to the actual LVWATSAN in itself and for those who work there, whether UN-HABITAT officials or local residents. This situation has produced a feeling of irrelevance of the work processes analyzed and compared with respect to the consequences that the work could have produced to the entire project LVWATSAN. Is it reasonable to think that at least some of the suggestions in the MUST report could be taken into consideration for improvement of the project? It might be possible to operate the micro-changes to a project whose funds were already allocated, whose aims and methods have already been decided? The risk of falling in the self-reference, both for the UN-HABITAT and for Sapienza, is in fact very large. How then overcome such a problem, which could make pointless the duplication of the interesting and potentially valuable experience of MUST?

SUGGESTIONS (ad maiora semper)

The attempt to answer to the questions posed by the fact that the whole experience MUST should not only be read as a training course for a group of young specialists, but as an experience that has the potential and the force to rise to the role of the driving force behind any virtuous dynamics. Precisely in this regard we will try to understand how the results of the report could have acted on the project, analyzing for each of the seven points, one of the indications suggested by MUST team.

Improving income generation

The main recommendation that appears in the first point of the report is as follows "*The evolution of the micro-credit for sanitation scheme into a micro-credit for business (as it has already happened in the town of Bondo) deserves attention, for it may be an effective tool for providing the necessary startup capital to a number of individuals and groups. The strengths of this institution so far seem to be: interest rates as low as 1% ; solidarity groups backing the borrower and guaranteeing his/her commitment to repay; some flexibility in repayment schedules; lending of construction materials (not money). The same modality could be applied to a business-oriented scheme*" (MUST, 2011).

The recommendation already contained an example of how it is possible, in the reality of the project, improve the income generation activities through the forms of micro-credit. In the town of Bondo a micro start-up had favored the creation of effective and well organized micro enterprises. Why not replicate the experience in other cities affected by the LVWATSAN? Considering this possibility could become a springboard for a joint development project (parallel or subsequent to LVWATSAN) with the UN or some other entity or with non-governmental organizations dealing with microfinance and development economics.

Improving nutrition

"*A properly designed and effectively implemented SFP for Shauri Yako Primary School could address some of the nutrition and health problems of its pupils, particularly those belonging to vulnerable households. To this regard, either a regular SFP could be established or a SFP designed to target specifically the orphan pupils with limited financial resources, could be taken into consideration. This could take the form of private funding (regular donations) to support the initiative already taken by the school's teachers* (MUST, 2011).

Even in this case, the recommendation has originated from an already activated action in a school in Homa Bay, thanks to LVWATSAN. The MUST research showed that the presence of the canteen is an incentive to the increase of the importance of the institution for the parents and how this implies an increase in school attendance and a decrease in the drop-out rate. Aware of the economic difficulties in whom are schools and municipalities, the study MUST proposed to make permanent school feeding programs through mechanisms of donations from private entities.

Improving primary education for boys and girls alike

"There is also a need to consider low-income children who missed primary education before free education was introduced. Although they are past primary school age by now, there is a need for rehabilitation centres for all children who are willing to learn, regardless of their age and especially if they face particularly severe economic and social conditions." (MUST, 2011).

The widest gender issue here was linked to that of equal opportunities in primary education for children. The group that worked on this goal tried to highlight the theme of gender across each of the main areas addressed by the other MUST groups. In this case, therefore, the relevance of the recommendations focuses more on the possibility that there would be, regardless of the success of LVWATSAN, an improving in the processes of schooling and a reduction of the gender gap also through targeted interventions in health (free distribution of hygiene stuff) preventing the dropping out of girls coming from the poorer sections of the population.

Improving the health condition for all

"Most LVWATSAN interventions are entirely acceptable if seen over a short-term period, but there seems to be a lack of an organic and structural vision. (…) In order to improve the unsatisfactory health situation, strong efforts should be made to implement actions in the field of prevention and information. Specific suggestions that can be offered are the following: school courses on risks and prevention of the most common diseases; Lower health care fees and make drugs affordable for poor people (not necessarily free, but token fees);increase investments in health-related infrastructure; provide grants for specializations in universities, with a compulsory training in local public hospitals; facilitate exchange programmes for doctors(…)" (MUST, 2011).

This macro-area collects in itself almost all of the operations covered by the LVWATSAN and therefore represents the core of the recommendations made in the MUST report. It shows a lack of orderliness in the project and based on this it propose some on-goings improvements for the boosting of its effects on the target population. Here, too, the proposed interventions are small (establishment of information and prevention programs in schools on the most common diseases in the area, a lowering of the rates of certain medications most frequently used). They are also urged changes in larger scale, probably out of range of a project of the United Nations, but that give us an idea of a more complex planning that, if organized with public institutions, can lead to higher and most concrete results.

Improving access to safe drinking water and sanitation

"(…)More water tanks could help cope with the lack of water supply; Water kiosks should be always situated in strategic points convenient for the entire community, in order to reduce the distance from the households; The same price should be guaranteed in all water kiosks, and such price should be affordable and not higher than the one local water vendors charge;(…)" (MUST, 2011).

The fifth objective analysis of this part of the LVWATSAN, considers some weaknesses (e.g. shortage in the supply of water tanks compared to the real needs of the population or the lack of attention to the price of clean water compared to that of sellers of contaminated water, etc ...) and tries to give directives to modify specific aspects in some actions already taken. In summary, do not propose new actions but simply an adjustment of those already in progress or tricks of those still to be made. Over all, a better and more careful management of new points of supply of drinking water, to be located in places easier to reach and lower prices.

Improving environmental conditions

"The MUST Team feels it is important to ensure the prompt implementation of the environment-related actions in the LVWATSAN project areas. In addition, it offers the following recommendations: promoting tree cultivation to prevent soil erosion; Establishing nurseries in partnership with the local community and schools; promoting the role of CSOs and CBOs" (MUST, 2011).

In a project like LVWATSAN, based essentially on improving the environmental conditions of the place where it is implemented, there are few observations that it was possible to do in this field. The good work of UN-HABITAT in this area has improved the quality of waste disposal and as a result of the waters of Lake Victoria, the main basin of the resident population.

Develop a local partnership for development

"The MSF would probably function best as an independent body to ensure that it is able to maintain its independence beyond the life of the LVWATSAN project; work out of its own offices; become more visible and make sure it has mandatory representation from at least 50% of the community groups that exist in the town. Explore opportunities for partnerships between local public organizations and private entities and foundations. Develop partnerships with schools – create activities for pupils to improve participation into political and civic life. Consider a municipal "public space forum" (MUST, 2011).

From the political point of view, in the broadest sense, the project LVWATSAN was not fully functional. The body that was supposed to represent the population actively involved in the project, MSF (Multi-stakeholder Forum), was underused and unrepresentative. Emptying it of the opportunity to take real action on the project, both in the preparatory phase and in the activity on the field, the whole project failed in its dialogic component. The beneficiaries of LVWATSAN, who were not personally involved in the project (with the construction of toilets, water tanks, etc ...), had no idea what it actually was and how the project could change their lives. The same MSF could encourage mechanisms of partnership with NGOs on the ground and with national private entities, if he had a greater bargaining power than what the project had given him. Exactly these were the observations of MUST, that enticed to develop stronger partnerships using the springboard given by LVWATSAN.

CONCLUSIONS

The role of the group MUST and its pilot experience was important for two main reasons:

-   It gave the input for a greater involvement of Sapienza University in international cooperation projects;
-   It pointed out the positives and the negatives of involving young scholars and professionals in the field study experience in contact with the beneficiary population of a project and gave them the opportunity to deal with situations that are, for them, often only theory.

Thanks to the MUST experience, Sapienza can boast a concrete experience of working with an international organization such as UN-HABITAT, which can be used for opening new channels in the future collaborations. The publication of the report Goalposts Scoring Points for the Millennium Development Goals is an important initial step for watching Sapienza as the Millennium University actively engaged through paths of interdisciplinary research. The validity of such an experience lies mainly in the opportunity that was given to participants MUST to be actively involved in a project with large flows and to use their professional skills, acquired during their own course of study. What to do to improve and make more effective the action of a second MUST experience? Certainly the mode of interaction and preparation (modular course, written exercises, group choice based on demonstrated competencies) are to be retained, but perhaps it would be advisable to choose a project that is not already fully started. The next challenge may be represented by the inclusion of the MUST group, even as a listener, to an ex ante study of a new cooperation project. Engaging young professionals to the field study (or to a part of it) that precedes the formulation of a cooperation project would be an important step forward in the process of introduction of the university institution within the processes of cooperation, in which it can actually add value. The university research so acquire a new concreteness and would give in exchange for cooperation projects a look at theoretical and introspective, the lack of which is often due to path failures and missed goals.

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