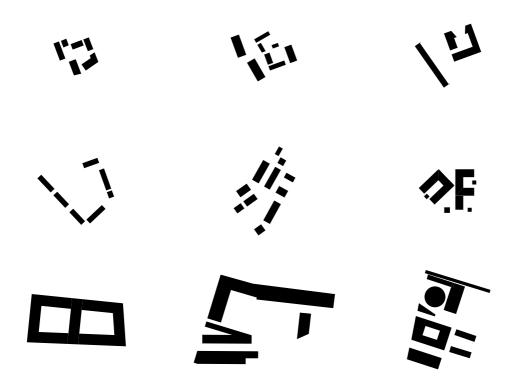
# **Kigali Master Class** with professor Peter Rich







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Jere Pääkkönen (ed.) Aalto University School of Arts, Design and Architecture





Aalto University Publication ART + DESIGN + ARCHITECTURE 8/2014

ISBN 978-952-60-5854-2 ISBN 978-952-60-5855-9 (pdf) ISSN-L 1799-4853 ISSN 1799-4853 ISSN 1799-4861 (pdf)

Graphic design Jere Pääkkönen

Printed Unigrafia Oy 2014

Yliopistopaino Helsinki, Finland

Paper Munken Lynx 120g

Coverpaper Munken Lynx 300g



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#### **Foreword**

The Asko Foundation decided to grant its support to an Aalto University Department of Architecture course focused on the hilly city of Kigali in Rwanda. It gave students an opportunity to acquaint themselves with an unfamiliar country and culture with vastly different construction conditions than those they had back home. The Department of Architecture had organized similar courses in previous years, and small buildings designed by students had been realized in both Africa and Cambodia. While the department has teachers with experience in working at distant and unfamiliar locations, this time however, the key position was held by the Master of the course: the South-African architect, Professor Peter Rich, whose experience and contact network were indispensable, as was his excitement fuelling attitude as the master.

I am convinced that the course broadened the students perspectives on what are the cultural, humane and technical roots of the architectural profession.

Markku Komonen Architect, professor, Asko Foundation board member



#### **Kigali Master Class**

In early 2014, I was invited as part of the Aalto University School of Architecture's Public Building Program, to lead a Master Class in Kigali, Rwanda as the visiting African Professor. This was an opportune and defining moment in which to run this type of program, for the Rwandan and Aalto Schools as well as for the Asko Foundation, as the outcome had the potential to be meaningful in theory, as a piece of urban research, and in practice. The two new village centres, both in the early stages of implementation, became the sites for the program. The student research component was envisaged in its role to facilitate and inform the potential for the development of better environments within these new centres; this, as a strategy, which demonstrates and provides guidance as to how these centres could be developed.

The Research and Design focused project was made possible through the generous contribution of the Asko Foundation in Finland. This was largely due to Architect Markku Komonen's long standing working relationship as an architect in West Africa (former Aga Khan Award winner) and his position on the Foundation Board, whom he managed to persuade to recognize the importance of an Art Foundation, in support of socially relevant projects in Africa.

I had the privilege of being a respected colleague of both Saija Hollmén (Responsible teacher of the Aalto School of Architecture Public Buildings course) and Markku Komonen in pursuing, what is to us, a common interest. This was to improve the lives of the less fortunate masses, by working with the communities themselves, through the design of sustainable environments in Africa, which are also a pleasure to use.

Community and Local Authority engagement and support of the current policy of the City of Kigali as to the permanent relocation of the urban indigent population to new villages on the periphery of the City.

The ASKO Foundation needed the assurance that, in whichever African context the Aalto students were to work, their presence and interaction with both authorities and communities would be properly brokered. This process of pre-brokering, through the appropriate agencies - the front-end process - leading up to the feasibility of the visit, is central to the success of the project. By going through the correct process initially, the project is afforded the opportunity to be relevant within its context; what in reality is left behind in addition to what the University stands to gain. My work in Rwanda, both as an academic and a professional, paved the way for the organization and running of the master class through the right channels, brokering engagement in a respectful and meaningful way. Tim Hall is a founding partner of our Kigali registered Architectural practice Light Earth Design; our Rwandan practice prioritizes the development of a sustainable building industry in all our projects, addressing the land-locked nature of the context which makes imported materials so expensive to procure.

My involvement in Rwanda began in 2007, when I was invited by the Presidency to lead the Rwandan team in the design of the new State House in Kigali. This was followed by a period of being an adviser to the City of Kigali's Urban Planning Unit. Research and professional involvement has subsequently been largely focused on addressing the pressing need for affordable housing.

Tim Hall (LED), with Tomà Berlanda (ASA), assisted us in the selection of appropriate sites as well as getting us access to the proper community structures. Tomà Berlanda, who is designing and implementing schools in Kigali for UNICEF, facilitated this assistance through the NGO of the First Lady with whom Tomà was working. Tim and Tomà were to further advice on this master class by engaging with and supporting current government policy, which is to offer

expropriated urban squatters the opportunity to relocate with tenure to new Villages or UMUDUGUDU's. These villages are located on the periphery of Kigali, where good hospitals and both Primary and Secondary schools are being built.

Tim and Tomà were to set up a series of 7 lectures by advisors, communicating the complexity of, and lessons to be learnt from, attempting to apply theory to practice in the context of the UMU-DUGUDU development program. The theory lectures focused on the potential of what a decentralized village could be and students also visited an example village commissioned by the First Lady.

The Asko funded Aalto Master Class, was to follow not only best practice procedures of engagement but furthermore, generate relevant Research and 'Place-Making' projects which could feed into an under-resourced City Planning unit, in support of current policy needs. It was considered imperative that false expectations by the community were not entertained. The outcome of the project was to inform the city planners as to the potential of Public buildings as catalysts for change and in the evolution of the UMUDUGUDU Village Centres.

# The Choice of two UMUDUGUDU's - Nyarurenzi, a semi-urban village fronting onto a wetland and Kigabiro, a rural village located on a commanding hillscape.

The 10 visiting Aalto students were divided into two teams of 5 and assigned through choice to either Nyarurenzi or Kigabiro. The 10 Aalto students were paired with 7 Rwandan KIST architectural students. This shared student interaction offered a unique two-way learning process.

The two villages, which are located to the north and south of Kigali, were to generate by virtue of their location, as well as the demographics of their potential growth, two very different socioeconomic contexts - one urban and one rural.

## The PROCESS of Research and Learning in a culture which is NOT your own.

The process of learning, from arrival and during the two weeks spent working in-situ, exposed the students to uncertainty and contradiction relative to the processes in place in their own culture; this provided a creative vantage point from which to rethink their positions and methodologies. The outcome was the development of a master plan, as a collective effort, while individually each student had to design a compound, thereby exploring the contradictions of movement from positions offering freedom of access to the more controlled. The designs of the compounds involved a greater complexity than the design of isolated public buildings would have entailed and the students were made to work from the broader context towards the more focused.

When it came to visiting their own sites, moving from theory towards the application, the students were confronted with the technical reality of the land surveyor's grid. Within this designated structure, they had to follow through with their own designs. The next step was evolving a brief through asking the right questions of the users. In this, one was actually trying to identify what the real needs are, for individuals and in the context of the greater community.

In going back to teach for one month in Helsinki, back in the context of the culture where the students came from, one noticed the huge differences between the two cultures. Given the fact that Finland is a social democracy, the everyday use of the city allows complete freedom of access to universities and public buildings while in the Rwandan context, there are definite thresholds of control before one can enter into the public realm. There was also the question, in Rwanda, as to whether there is a public realm, or whether this isn't in actuality the street, the narrow alleyways and the markets? In this condition, where opportunity for public spaces is so limited, it becomes a real design test for a person coming from a country where public space is such an integral part of urban planning.

As designers, the discipline of sustainability applied; this meant in the context, the use of local building materials and detailing done according to common sense rather than in alliance with preconceived ideas of European sophistication; in their design responses, the students frequently had to be 'pulled' back to basics. The choice of material can be strategic in kick-starting a local building industry and an appropriate modesty of detailing arises from the means of the people for whom one is designing. This holds true for the development of typologies, looking at ways of working in high rainfall areas through the resolution of roof overhangs and the channeling of water. The humility of the context, allows one to engage with the very simple principles of architecture that have to do with proportion, rhythm and scale. The challenge was to design in a contemporary way, learning but reinterpreting the lessons from the local vernacular and in some cases adding further value to it.

In the investigation of cultural norms different from one's own, one started looking at the way in which Rwandans use and create space. With this knowledge, whether working with an inner or a public court, one could aid these intuitive responses in one's own design in order to create a sense of place. Students were made to realize the importance of the compounds' relationships to one another, over and above the relationships between the buildings within a single compound.

While what was asked of the students was actually very difficult, they managed to read the social, cultural and physical context, and draw on their own experiences of Rwandan space-making to create places of quality. We believe that the design outcomes for both villages serve as examples to the city planners as to potential ways of generating viable town centres in these new villages.

In June 2014, his Excellency, President Kagame, prioritized the rollout of higher density housing in recognition of the rapid urbanization, which is occurring. This public declaration has drawn the attention of the Ministers of Infrastructure and Education and the City of Kigali, to the need to relook at development in terms of what it means to be Rwandan? The attaining of a truly Rwandan spatial identity is a priority and we hope that this book, in a small way, makes a contribution to that. "What counts in life is not the mere fact that we have lived. It is what difference we have made to the lives of others that will determine the significance of the life we lead."

- Nelson Mandela

Peter Rich Architect, professor





#### **Overview**

The Kigali Master Class was an advanced building design studio organized by the Chair of Public Buildings in Aalto University, Department of Architecture, with the support from the Asko Foundation, during the academic year 2013-14. It took students of architecture to Kigali, Rwanda to learn about the features of a foreign culture, and to work with disadvantaged local communities. The assignment was to design a public building for an existing need, using participatory planning processes and collaboration with local people and communities.

The focus of the course was on community empowerment through participation, sustainable design solutions and culturally knowledgeable architecture. The course included studies on local building traditions and materials, as well as social, economic and climatic characteristics of the local culture. The course aimed at providing students with a wider perspective and understanding of the processes of practicing architecture when working in various cultural contexts, as well as developing the students' value system and sense of responsibility.

The course approach was partly based on the work of Ukumbi, a Finnish non-profit organization of which the founders; architects Saija Hollmén, Jenni Reuter and Helena Sandman, were awarded with the Asko Avonius Design Award by the Asko Foundation in 2012. Ukumbi offers architectural services for communities in need. Its work is based on acknowledging locality and culture as a solid base for creating architecture that is rooted in society and local needs, raising quality in the build environment and providing possibilities for development. The founders also teach at the Aalto University Department of Architecture. This inspired the Asko Foundation to contribute in organizing a master's course that would follow the principles laid by Ukumbi.

Peter Rich, a principal architect at Peter Rich Architects in Johannesburg, South Africa, and a former Professor of Architecture at the University of the Witwatersrand in Johannesburg, was asked to become the Master of the class. His designs are rooted in Africa and show a profound understanding of African space making. His long-term experience in teaching, as well as his internationally awarded approach to creating architecture, brought the Master Class the values and quality it needed. The other teachers for the class were architects Saija Hollmén and Helena Sandman. Professors, architects Markku Komonen and Juhani Pallasmaa, also board members of Asko Foundation, were invited as visiting critics for the class. The key persons in Rwanda were architects Tomà Berlanda and Timothy Hall, who helped in creating connections and brokering us into the communities.

An integral part of the course was the field trip that allowed the students to gain an understanding of a specific country in the developing world, and learn how architecture is rooted in the culture and local issues. Kigali was chosen to be the location for the field trip, due to Peter Rich's professional relations and connections within the city.

#### **Prerequisites**

During the autumn term 2013, ten selected students were required to attend classes that prepared them to understand issues of globalization and development. Kigali Master Class belonged to a set of courses called World in Transition (WiT), which is a collection of courses concentrating on global issues and sustainability, organized by different schools of Aalto University.

The Kigali Master Class was launched with a full day seminar on January 2014, which included presentations on Rwandan culture, history and its present situation. The seminar also discussed climatic issues, and general features of African architecture.

#### **Rwandan context**

Rwanda is a unique country in the African context: unlike any other African country, it has only one tribe, the Banyarwanda, inhabiting its territory. Due to reasons dating back to colonial times, the different classes of the Banyarwanda tribe, the Hutus and Tutsis, haunted each other causing a vast diaspora of the Tutsi population to neighbouring countries. The enmity led to a tragic genocide in 1994, during which almost one million people of a population of nine million were killed, a million children orphaned, and the country's infrastructure totally destroyed. Since then, in only 20 years, Rwanda has witnessed unbelievable development and growth, the nation united and determined to overcome hatred and rancour.

Rwandan society is organized around a communal system called umudugudu, which is the word for the smallest administrative unit, a "cell" or a "village". The umudugudus are then organized into sectors and larger districts. An exceptional feature of Rwandan culture is the umuganda: the last Saturday of every month is dedicated to community service. The umudugudu (cell) leader collects a list of things to do, and during the umuganda the inhabitants of every umudugudu work together to execute the tasks. Due to this unique system, Rwandan society is extremely well organized and effective. Rules are followed strictly and authorities respected. Corruption is not accepted, and there is a clear intention in society and governance to avoid it. It is a controlled society with an effective and able government – unlike many other African countries.

There are only few public buildings in the Rwanda that would genuinely be open to the public. Schools and churches are strongly institutionalized; the most public spaces are the places for trading and meeting: markets, street sides and market verandas. Public facilities, other than those for trade, are a rarity. Normally these public facilities are also strongly controlled: security checkpoints and guards on the doors are a standard. The concept of public space is thus different from that of a North-European; openness to public is relative.

Aalto University's Kigali Master Class was primarily a public building design course, which aimed at studying how public space and buildings could serve as a catalyst for chance and development. In this regard we faced a challenge in the different understanding and use of public space.

#### Field trip

Kigali, Rwanda, January 19 - February 1, 2014

The field trip to Kigali was a two-week intense period, during which the students of Aalto University had the opportunity to engage with local students of architecture form the Kigali Institute of Technology (KIST) and chosen local communities. Architects Timothy Hall and Tomà Berlanda provided the professional contacts needed during the field trip, whereas the practical arrangements were facilitated by Samela Priestley and Anton Larsen. The input of these professionals guaranteed the success of our trip, and allowed us to concentrate on the issues we had come there to learn.

Timothy Hall and Tomà Berlanda committed themselves to choosing the most suitable sites and brokering access to the communities for the class. In most cases, their negotiations with local authorities allowed us to enter the communities without confusion. They had also prepared a series of lectures which allowed us to get a rather comprehensive idea of the current situation of the planning of the City of Kigali.

#### KIST students

A key factor of the exercise was the participation of seven local architecture students form KIST, whom we paired with ten Aalto students. The KIST students were all interested and motivated to work with us, and their input to the class was invaluable. Being native Kinyarwanda speakers they enabled the communication between Aalto students and the communities and individuals in the villages, who could not speak English. Their ability to adapt to different situations was admirable; at times they took the role of an interpreter, allowing the local people to voice their own opinions when

discussing with Aalto students, and at times they worked on the architectural challenges as equal peers to Aalto students in our office workshops, to outline the various possibilities of designing the alternative site plans for the villages. Aalto and KIST students also developed personal friendships, which again opened up perspectives that mere teaching in a class never could.

The participation of KIST students was a fundamental asset to our class, which cannot be overemphasized. Without their local knowledge the class would have remained as a somewhat outside observers, not achieving the depth and understanding that their presence enabled. These students are also among the first generation of architects to graduate in Rwanda, and the enormous task they have ahead of them in building and developing the country became tangible in the conversations during our visit. The Aalto Kigali Master Class might have also been an educational opportunity for them, to get an outside view of architectural approaches to the development of Rwanda, challenging them to think beyond their customary assumptions.

#### **Community engagement**

The villages of Nyarurenzi and Kigabiro had been chosen to be our design areas due to Tomà Berlanda's knowledge of these areas. Berlanda's firm ASA has designed, and is constructing early childhood and family learning centres for UNICEF in these villages. They are both within 15 km from the city centre; Kigabiro in the north, Nyarurenzi in the south, and both will grow very rapidly in the near future, as the city expands.

The district officers made the current development plans for both Kigabiro and Nyarurenzi, and had very little public services envisaged in them. Our approach was to discover and outline architectural projects that would serve the community and facilitate urban growth. Each student would do an individual project, a design for a public building, but in order to do so, they would have to design an alternative site plan for the village together. Every project would be linked to each other and contribute to make a coherent village plan.

Project planning was the biggest challenge of the Master Class. Normally an architect is given a task to design a building or an environment – but this time we came to look at an environment and a community, trying to figure out what would be the architectural interventions that would best serve the sustainable development of the community. The students had to personally involve and engage themselves in the daily life of the village, get to know and discuss with as many people as possible, and to get an understanding of how they live, what is there in their environment that they value, and what do they feel is missing.

The challenge for the students was to pose questions in such a manner that the people would have to expound their views – a direct yes or no would not be enough. Leading questions were banned, instead the students were encouraged to get involved with everyday routines, cooking, football, eating etc., and while doing so, to observe and learn from local daily life. They were to underline to the community that they had come to learn and their projects were to be student projects for the university, to avoid false expectations. They had to turn the communication into a reciprocal exchange of information and knowledge, where the insights of the villagers were valued and appreciated. Even though our students didn't have much more to donate than a football to the village kids, they were warmly received due to their respectful attitude.

Needless to say, the KIST students who accompanied Aalto students to the villages were in a crucial position. Their mere presence made it easier for Aalto students to approach the villagers, and their translations made the communication possible. They helped us understand cultural locality, cross the language barriers and avoid the worst customary mistakes.

The public building projects that our students finally articulated for a detailed design, based on discussions and communication with the villagers, included youth and vocational centres, market places, women and early childhood centres and a catholic church.

#### **Embracing uncertainty**

During the field trip we adopted a habit to reflect upon the day as a group over dinner. Everyone was given a peaceful moment to say what they felt and learned today, without interruption. In many of those reflections, uncertainty arose as the topmost feeling. Uncertainty of what was there to come, of how would one know how to deal with the communities, and of how would one be able to come up with a sensible and appropriate architectural project.

The role of the teachers at that point was to ease the pressure and assure that we were dealing with something valuable. None of us would know exactly what was to come, but having faced similar situations before, the teachers were able to make an educated guess on the outcomes. Uncertainty was something to embrace, not to fear. Only by being receptive and responsive would we gain the trust of the people we wanted to communicate with, and avoid the risk of cultural exploitation. Participatory planning is about personally engaging oneself it the debate, listening and appreciating what is being said. It is not an academic exercise; instead, it requires genuine human encounters, being present and open – even vulnerable.

Out of this embraced uncertainty, seeing what the field trip and the projects turned out to be, grew trust and courage to throw oneself into new situations - a valuable lesson in life.

## Kigali Master Class - an advanced design studio

In the Kigali Master Class, the design assignment was to be discovered and justified by the students themselves. First of all, the project planning required sufficient conversance on local culture and conditions. Engaging the community and finding out the actual needs on a specific site, was the greatest challenge of the master class. The students participating in the class were advanced in their architectural studies and all quite familiar with building design processes. In Kigali, it all came down to the basic questions: what is being designed or built, for whom, and why? Questioning the very principles of our profession, studying and finding answers to these

questions with the people of the villages, gave a whole another perspective to the profession of an architect compared to what they gain solely in their home university.

The first step of our design studio was all about getting acquainted with Rwandan culture and outlining the design task for each student. The project planning and the designing for another cultural environment made the class an advanced course in the curriculum. The sequential steps of the assignment followed the structuring of a normal Aalto building design studio.

The architectural challenge our students were facing was equally demanding. Back in Finland, they had to keep in mind the context of their designs; the material palette we gathered defined a basic language for the architectural expression. With limited resources they had to concentrate on the basic elements of architecture: scale and proportions, shade and adequate ventilation, security and circulation, low-tech solutions and local materials. By toning their articulation accordingly, focusing on the essential in the architectural experience, they sought to achieve the required concentration in their architecture.

#### The Artek Exhibition

The outcomes of the Kigali Master Class were exhibited at the Artek flagship store in Esplanad, located in the very centre of Helsinki. Artek is a legendary Finnish "sales and propaganda centre for the new housing ideology", established in 1935 by Alvar and Aino Aalto, Maire Gullichsen and Nils-Gustav Hahl. Their core collection of furniture is designed by Alvar Aalto and other distinguished designers.

Asko Foundation's connections with Artek made it possible for us to have the Master Class projects presented at Artek Esplanad. The exhibition was open to the public between April 26 and May 11, 2014.

#### Lessons learned

In our modern societies the prevailing conditions change more rapidly than we can even comprehend. As society changes, the role of universities change alike. They can no longer be the "keepers of knowledge", but rather incubators for new ideas. Universities have the outstanding potential to be places where innovative minds come together, to create new connections and find alternative ways to approach the questions of development and progress.

From a pedagogical standpoint, the prevailing social constructive view of learning guides students to find their own learning zones by sharing information. Students are strongly involved in the common learning process; the contents are defined and constructed by the students themselves. Groups rather than individuals produce knowledge in productive collaboration with several intertwining disciplines.

The Kigali Master Class aimed at providing the students with a comprehensive learning experience, where the students themselves would have an active role in the creation of knowledge. Their common endeavour to find the best alternatives for the village site plans, and to formulate their own projects to support each other in the specific context was remarkable. Embracing uncertainty became an asset when they needed to enter into interaction with new communities and unfamiliar situations. It taught them the very skills one needs in order to overcome prejudice, bias and suspicion in oneself, allowing to see further and wider than before.

Questioning the prevailing conditions and thinking out of the ordinary is an ability we need to cherish and cultivate in our developing educational models. In Kigali, we concentrated on the essentials of architecture, asking ourselves what kind of cities and buildings are needed and appropriate to further the sustainable development of human settlements. Architecture is the one discipline that

by default brings together art and technology, sociology, economy, anthropology and many more. Architects need to participate in the societal discourse, and take a stand on issues that they by education are able to influence. In order to justify our architectural interventions, we need to include questioning the essentials in the core of architectural education.

Architecture is a means of communicating the needs of a community, to develop its self-esteem and self-sufficiency. Project planning is articulating architectural interventions according to need. In rapidly developing cities like Kigali, architecture can be a powerful catalyst for urban development, which combines not one, but several fields of society. The Kigali Master Class and the student projects it presents have the potential to become influential in defining the Rwandan way of urbanization, increasing urban density, and creating public buildings and spaces for the use of Rwandan communities.

This publication presents the Kigali Master Class as it was experienced by the ten students and their teachers. It collects the outcomes of the course, and presents the student work that was produced during the design studio. We hope it raises discussion and brings out differing opinions about the directions of architectural education, the role of architecture in development, and the extraordinary case of Rwanda.

The last compliments I wish to express to the Asko Foundation: their support made possible the incredible journey we experienced. Without their support this Master Class would not have been possible.

Saija Hollmén Architect, Lecturer



#### **Environmental Design**

Generally in regions where energy infrastructure is not developed enough, the utilization of local climate potentials as much as possible is essential in the build environment. It means that architectural design requires an approach called "Bioclimatic design". Moreover, consideration of local climate and behaviours as well as the utilisation of the most applicable materials for any give design in fundamental. This applies in the case of Kigali.

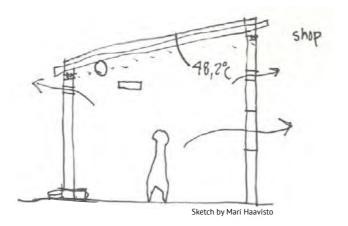
#### Thermal investigation

Local climate information is easily available on the Internet, however, it is difficult to intuitively understand the real thermal situation from the numerical data itself. Thus, during the field trip students carried out a thermal investigation assignment using thermometers and their own body in order to comprehend local climate, as well as how it reflects in the behaviour of local people. What they learned was then applied in their own project.

Students had sketched different thermal situations on site, from inside and outside of buildings, places where local people were exposed. The sketches included measured values from their devices. One common finding was that local people tend to spend their time in the outside shade during daytime direct sunlight, and only recede into their abodes after the sun sets to eat and sleep as temperatures get lower. Basic observations like this are the keys to designing locally acceptable architecture.

#### Four aspects toward architectural design

Through their thermal investigation and experiences, students observed multiple different aspects to be taken into account in their projects. The four most important aspects are the following: 1) Ventilation. Kigali, which is very hilly, has changing wind directions throughout the day. Designs have to take into account that the location of rooms and openings are situated so that they create pathways for wind-flow and stimulate natural ventilation. 2) Daylight.



Kigali is located near the equator so the sun rises directly from the east traveling almost directly perpendicular to the ground setting directly west. Thus it is important to consider the changing daylight situation and how it can be utilized to reduce use of artificial lights, but also how to use window openings, shading etc. to reduce the impact of direct sunlight. 3) Rainwater. Kigali has two rain-seasons when heavy squalls may occur throughout the day. Rainwater collection and drainage solutions have to be integrated into the design. 4) Local behaviour. It is important to design outdoor spaces where local people can gather. Appropriate shading and ventilation must be present to enable people to actively use the architecture itself. All of these aspects are to be taken into account and realised in the students' work if it is expected that the local communities accept their proposals.

Nobue Suzuki - researcher of environmental design, architect Genku Kayo - researcher of energy technology, engineer



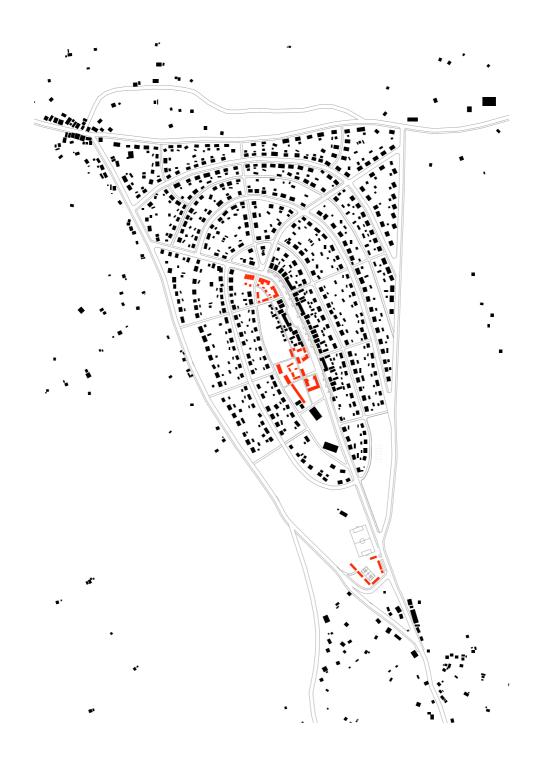




Kigabiro is a village that sits on top of a hill northeast of the capital Kigali. The high altitude makes scenic views to the surroundings emblematic. Kigabiro is a typical rural Rwandan village, agriculture being the primary, modest income. But with the rapid population growth of Kigali, Kigabiro demands to be much more densely built. We set out to make an improved master plan of Kigabiro.

In our plan, a main road makes its way over the hilltop, with secondary streets conforming to the hill's terrain. Along the main road are commercial buildings as well as our individual public building designs. Project on the northern side of the hilltop is an Agakinjiro, a local craftsmanship workshop, and on the southern side a Youth Center. Three projects together form a central plaza: a Community Center, an Early Learning Center and a Vocational Training Center. The concepts of our projects stemmed both from what we learned through interviews with the locals and from what we came to know of the wider developmental needs.

From the very beginning our core value was spatial and functional connection between all our projects, thus forming a coherent whole. However, it is not only buildings designs, but an illustration of the potential of what this growing area can reach through appropriate planning.



The Kinyarwandan word 'Agakinjiro' means a local workshop providing jobs and income for craftsmen and women. These workshops are concentrated on technical skills usually in the fields of carpentry, construction, crafts and arts.

Currently in Kigabiro, agriculture is the main occupation for many villagers. As the village grows there will be lesser space for the fields and plantations. Therefore, it is important to create additional career possibilities. Also the ambition of the Rwandan government is to establish new jobs and increase off-farm employment.

This project offers facilities for people to gain hands-on skills through apprenticeship at the workshops. In addition, building and crafts can be learned in classes organized on site. Besides offering education and jobs, the workshop area forms a selling point for different artefacts and products. The idea is that when the workshop area grows in the future it also promotes other services like restaurants and commercial banks to the near area. The whole community as well as the other public buildings designed nearby would benefit of Craftmanship workshop since it could provide building materials and skillful workmen to help with the construction.

The interviews with the local craftsmen gave important information about their wishes and visions for the future. They all shared similar ideas of working together. Their business could be improved by new customers and opportunities that co-operation initiate.

#### 31

## Minna Ahtiainen

Agakinjiro



"For me, the field trip to Rwanda was a truly unique experience and unforgettable first encounter with Africa. All the beautiful views, colours and people gave an impression of fascinating country full of potential. When we first left to this trip we did not quite know what to expect or where our projects would lead us. So it has been an interesting process through several stages from the first interviews of the local people all the way to the complete projects.

The Kigali Master class has provided an exceptional opportunity to learn from Rwanda. The context of developing country offers demanding setting for design. It has forced me to turn my mind back to the basics. My project aims to engage and encourage people to work together and help each other. It also provides a platform for social encounters that already are, without a doubt, an important factor of life for Rwandans."

### **Design Process**

The site is located in the village called Kigabiro, in the Butare cell, north from Kigali. Positioned on a top of a hill, it has beautiful views down to the valleys around it. I chose this site because of its stunning landscape and its typical layout of a rural Rwandan village.

Existing public facilities in Kigabiro are protestant church and a vocational training centre (VTC) next to it. The VTC provides education to improve sewing, construction and cooking skills. A tuition fee is required from the students attending the classes. There is also a small nursery school next to the village office. The closest primary and secondary school are at 20-minute walking distance from the village. Closest health post is situated approximately 1 kilometre from the market place. Water and transportation are the main problems in Kigabiro. Inoperative, but still existing water pump forces people to walk down to the valley (3 km) to fetch water. There is no public transportation line that would connect Kigabiro to Kigali. Only the richest ones own a motorbike others just a bicycle, which sometimes has to be carried in the steep slopes.

The village of Kigabiro has a new generation of young people moving into the village due to its relatively cheap land prices. Most of the people work with agriculture and farming since there are not a lot of other career possibilities. After discussions and interviews with the locals, we also noticed that there are not much activities or places to spend time. A normal day of the villager consists of cultivation, different housework including cooking, cleaning and laundry. A woman we interviewed said that after the day's work on the fields (finished by 12 p.m.) she usually just stays at home with the children. Meetings of the villagers just take place under a suitable tree. Many of the villagers said that their favourite place in Kigabiro is the market place when it is active and vibrant. During the wet season, when the food production is good they might even sell their products in Kigali. Some of the villagers also wished for higher density to the area to have better services and better career opportunities.

### First Thoughts of the Project

Since there are not much existing public facilities in Kigabiro, it afforded an opportunity to think of various options. In our group, we shared similar ideas of how to improve the life of the villagers, so instead of designing separate buildings of our own we decided to work together. The concept of our group is overlapping functions. Everyone have their own slightly different approach, context and target group. Together our projects form a coherent whole, where the spaces in between the buildings become highly relevant. The ideas of the five public facilities are an agakinjiro (workshops for men and women), a community centre with a public meeting place and a library, an expansion of the existing VTC with a dormitory and a restaurant, early childhood centre with proper playground and finally a youth centre focusing on leisure activities and sports.









In my own project, I would like to create spaces for different workshop activities for both men and women. In Rwanda there is this concept called 'Agakinjiro', which means a workshop providing jobs and income. At the moment, most of the villagers get their income from agriculture. In the future when Kigabiro expands there might not be enough space for the fields and plantations. Therefore, an agakinjiro could offer vital opportunities for young people to gain hands-on skills through apprenticeship with the crafts persons in metal and wood workshops, handicrafts, weaving, sewing and cooking.

In Kigabiro, near the market place, there already exist some small-scale workshops. I interviewed a blacksmith, a man working in metal workshop and one owning a small sewing business. They all shared similar wishes and ideas of how to improve their situation. At the moment, the amount of potential customers is quite small. They all hoped for better visibility to tempt more customers. The man working in the metal workshop also said that working together with others might improve his business possibilities. By creating a permanent place for the workshops and bringing them all together, their chances to have different kind of new clients would increase. Furthermore, by allowing the agakinjiro to expand in the future, it would also promote other services like commercial banks, restaurants and cafés to the area.

### **Design Strategies and Concepts**

The concept for my design was simply formed by studying the traditional building typologies used in Rwanda as well as analysing the existing setting in the Kigabiro village. The village is built on top of the hill and quite naturally the top becomes the centre of all activities. In our group's master plan proposal, we decided to situate our projects along the main street going through the village.



North Elevation 1:1000



Section A-A 1:1000



Section B-B 1:1000

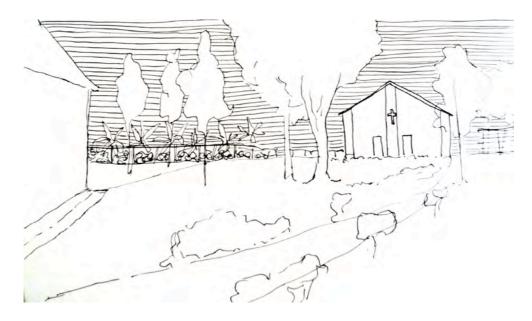


Section C-C 1:1000



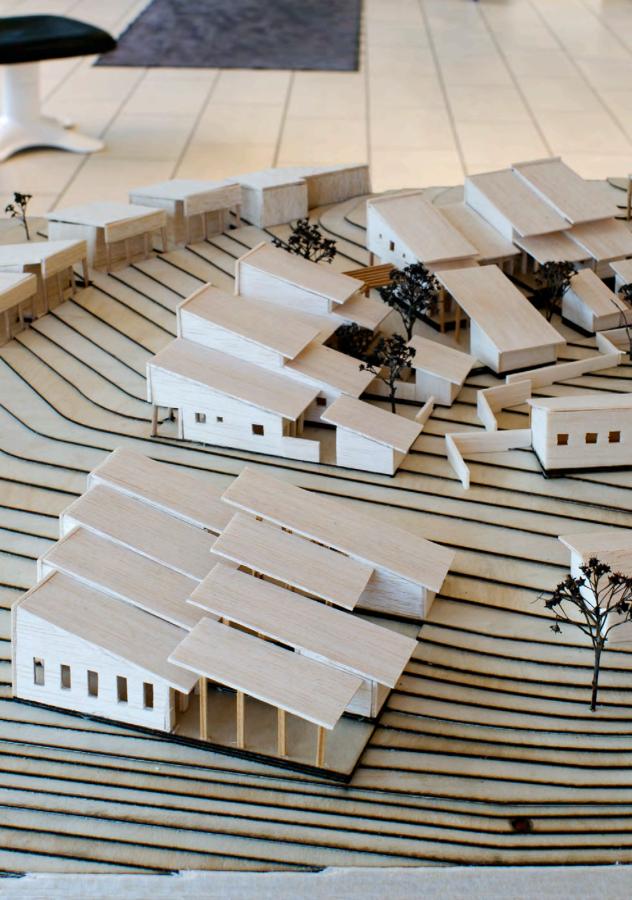
My concept was to design a tight street edge where the services such as shops and workshops would be easily discovered. From the vernacular Rwandan architecture, I adopted colonnades, which are widely used design in commercial buildings in Rwanda. Colonnades respond well to the Rwandan climate as they provide protection from rain and heat. These colonnades also create a subtle boundary between the road and the workshop spaces behind.

Another idea was to create an intimate inner world with various courtyards behind the building volumes. Shelters and vegetation were put in place to create nice and shaded atmosphere. These informal spaces and courtyards offer places for social exchange and various activities. The topography gave a motive to play with the changes in levels. The building volumes go down with the slope and follow the roadside. Also the roof system has been considered to collect the rainwater to the courtyards where it can be harvested and stored in under ground storage tanks. All ourgroup's projects are linked with a walkway that gives another connection besides the main road. This path goes through the Agakinjiro plot as well and suggests where the growth of the project can take place.





Sketches



As we listened to the people living in Kigabiro, we found that there was a need of spaces for meeting and creating. A gift of the community is their connection: they share, they work and socialize together abundantly. I wanted to create a project that strengthens the unity of the community, and provides means to learn and grow businesses.

In my project, familiar concepts, such as the meeting and workshop spaces and the agricultural area, provide a gentle transition to more foreign concepts, the community library and access to technology, which are beneficial to the community's development. Independent spaces are provided for women to empower their involvement. The community center also provides lacking necessities such as water supply and a laundry area, as well as adult literacy training and a shop to sell the goods that the community members produce.

It is important that the center doesn't merely give predetermined directions, but understands that projects initiated by the people in the village both creates stronger motivation and answers real needs. Careful thought has been put into making flexible spaces and the transitional establishment of the center. Easy access, the pleasant upper floor and the intimate courtyard support spaces which alternate between being sheltered for privacy and inviting for all.

# Anni Laurila

**Community Center** 

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#### from start to end

It is a rare opportunity to design a project all the way from the beginning without much external directions and limitations. Planning the concept, the location and the room program gave so much more motivation, because it meant that it was something that each of us truly believed would be important and beneficial.

Designing in such a different climate and culture was fascinating, and to my surprise, in many ways it gave more ease than difficulty. Indoor and outdoor spaces could bind together and create a flow that is not possible in a colder climate. Standards also did not restrict the design as much. Making the project realistic meant that good design didn't come from pompous gestures, but sensible solutions. It was important for me to keep the project relatively humble, to make it realistic both in the future and today.

### **Design Process**

After the fieldtrip we were equipped with much knowledge, but Rwanda did feel very distant in the middle of the dark and snowy Finnish winter, almost like a dream we'd collectively seen in our sleep. It's a playful thought to wonder how our projects and our way of presenting them might have been different, had we made them in Rwanda from start to end.

What was very clear to me from the beginning was the organization of different interior spaces around an intimate courtyard. I also wanted to put thought into how the project could be made in different stages, so that it would be buildable even with a lower budget. This came quite naturally with my design process, as I ended up designing the initial phase first and then moved on to the following stages. For this, it was also important to decide how the functions of the spaces could change in time.

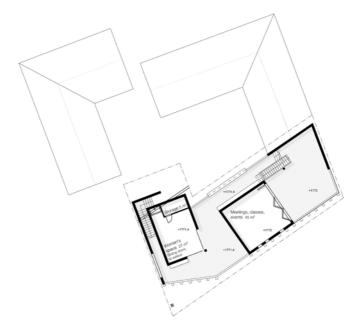
The organization of the second floor took the longest for me to figure out. I had approached it from such different directions that it became very clear to me what my goal for it was. I wanted the very public space and the women's more private space to be connected, but in a way that subtly implies a border of privacy. I wanted the circulation in it to play with the very different views to the public plaza and the intimate courtyard as well as framed views to the street and to the agricultural area.

I also needed to show in the design what I had learned from the research I'd read on community libraries in rural Africa: how much space is adequate for a library, and how the librarian is closely connected to the people. Pyry, Mari and I had to work together from the beginning to connect our projects: to form the plaza and to maintain the pedestrian spine going through all our projects. Mari and I kept our spaces for women close to each other. The water storage collected water from our project's roofs and the library in my project provided literature for other projects.

### Concept

As we listened to the people living in Kigabiro, we found that there was a need of spaces for meeting and creating. A gift of the community is their connection: they share, they work and socialize together abundantly. I wanted to create a project that strengthens the unity of the community, and provides means to learn and grow businesses.

In my project, familiar concepts, such as the meeting and workshop spaces and the agricultural area, provide a gentle transition to more foreign concepts, the community library and access to technology, which are beneficial to the community's development. Independent spaces are provided for women to empower their involvement. The community center also provides lacking necessities such as water supply and a laundry area, as well as adult literacy training and a shop to sell the goods that the community members produce.



1st Floor Plan 1:500



Ground Floor Plan 1:500





South Elevation 1:500



East Elevation 1:500





Section D-D 1:500

It is important that the center doesn't merely give predetermined directions, but understands that projects initiated by the people in the village both create stronger motivation and answers real needs. Careful thought has been put into making flexible spaces and the transitional establishment of the center. Easy access, the pleasant upper floor and the intimate courtyard support spaces which alternate between being sheltered for privacy and inviting for all.

My core concepts are providing facilities for; Meetings and events, community work and entrepeneurial possibilities; a women's social center; providing neccessities which are currently lacking; an ICT centre serving all nearby villages and a Rwandan community library.

The Kigabiro Community Center is a public building concept that answers local needs - supports both the social aspect and future development of the community. It also provides means for a rural, slightly secluded area to get the benefits of Rwanda's ICT development.

Clear guidance is needed (personal and/or illustrative), to give maximum benefit of the facilities (access to internet, learning, business and information). There is illiteracy and declining of literacy in the area. Literacy is important in many aspects - creating a business, understanding your legal rights (i.e. land ownership) and being part of the decision making in the community. The center provides spaces and reading material to develop own projects, as well as arranged workshops, meetings and events. There is also a possibility to borrow equipment which may be financially inaccessible to the community members.

### **Community Library**

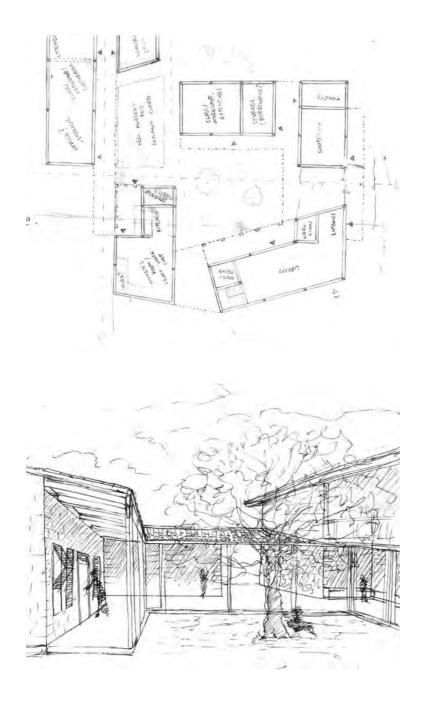
There are several studies that examine and present what makes a rural African library function well. The library in the Kigabiro Community Center needs to be close to the community.

Particular emphasis has been put into the involvement of the women in the community, through the architecture. The library and the adult literacy training empowers women to read and to educate themselves (according to studies, women in rural African libraries tend to have high participation numbers in workshops and adult education classes), strengthening their independence and rights. The library can get substantial international funding due to wide interest (i.e. Friends of African Village Libraries, UN One Percent for Development Fund). In similar projects, such as Kitengesa Community Library in Uganda, the library has also sparked several entrepreneurial projects.

Some factors that are important in the establishment of the community library in the Community Center include:

- 1) Library focuses on providing information that is relevant and specific to the community in Kinyrwandan, French and English, about local interests i.e. agriculture and health.
- 2) A good librarian that understands the local community, creates activities, workshops, is approachable and assists when needed.
- 3) Providing spaces for projects created within the community, spaces from which there is easy access to supporting literature.
- 4) Architecture that makes the space approachable and easy to orientate in, a "second home".







This project is an early learning center that combines day-care, a maternity clinic and a multi-purpose training center for parents. The building masses are located so that on the Southern side the most public part (the training center) connects to the public square and to the vocational training center. The maternity clinic is located nearest to the community center on the northern side.

The community center gives special attention to women which is a link these two buildings share. The day-care part is located more downhill in two separate and similar buildings. A demonstration kitchen in the middle of the courtyard divides the space into a semi-public courtyard for the parents and a more private one in the lower site for the kids. Since the heat of the sun is quite unbearable during the day (Rwanda is located right south from the Equator) I wanted to provide as much covered outdoor spaces as possible, that work as a transitional space also when entering indoors. These kind of spaces were the ones most in use in Rwanda during the midday heat. Because this is a facility for children, I wanted to provide an adventurous environment to explore. The differences in levels go gently with the existing terrain. The only exception to this is the maternity clinic that gets its privacy by having a higher platform than the lower buildings.

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## Mari Haavisto

**Early Learning Centre** 



### Step 1 - Creating a Project

The step 1 was a phase for research. To make all the found information easy to understand and to get the big picture, I divided the research part into three cathegories (interviews, models and references) and called this although the "Facts".

The interview-part contains recorded information from the Kigali field trip, that support my first ideas of Early Childhood Development Center (ECDC). Doing the interviews with local KIST-students was one of the most interesting things in the field trip: that was our way to start understanding the living habits and the local needs. From the interviews it was clear that if the Kigabiro-village would grow, a new space for nursery would be needed (for now there was only one room for that purpose).

For the models-part, I started the research by going through some brochures by the UNICEF, that had a lot of information of designing a facility for children. The UNICEF has many projects and examples of both temporary and contemporary facilities. The brochures explained what is important for a children of different age and also what kind of cultural aspects need to be taken care of. A stong emphasis was put on explaining why children are the foundation of sustainable development.

As to broaden and deepen my understanding of this subject of ECDC, I looked through beautiful reference projects in developing countries around the world that paid special attention to children and their scale. From these three fact-parts I started to combine my own room program and I decided to include three different kind of functions into my project: a nursery, a maternity clinic and a nutrition/training center for the parents. This is a combination that could comprehensively improve the situation of childcare in Rwanda.

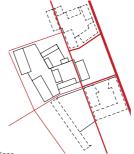
Specifically I am happy to think of including a similar operation as we have in Finland called "neuvola" that is a clinic taking care of the mother and the child before and after the childbirth.

At this point I already examined the connections in the room program (what room needs to situate where) and also how the building complex could work (how does your day go when you arrive at the center with your children).

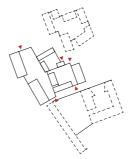
We did a small group work part where we looked more closely at the environment of Kigabiro. We had already made rough plans where each of our projects would be situated, but at this point we had to change them a bit. The desicion to link my project with Anni's Women Center and Pyry's Vocatinal Training Center was made and my plot was placed between those two.

### **Step 2 - Concepts and Directions**

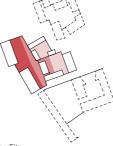
Once we had discussed of placing my facility into a space between Anni's and Pyry's plots, I started to look how my room program would roughly fit there with exactly right size roomboxes. I made a scale model of the site in scale 1:200 to understand the height differences and to continue the play with the room program boxes. It was clear to me that I should make few separate buildings instead of a one big one combining all the functions (although I tried that one as well). The basic Rwandan building typology is a compound, where all the functions are in their own buildings, scattered around a fenced property. Once you enter, the most public functions are placed in the front and as you continue deeper into the compound, the more private it gets. With this in mind I started to make combinations that would have the same idea of scattered buildings with different functions and with a gradient of privacy level. In this exact spot, this composition creates an interesting set of courtyards and buildings that decend down the slope. When making a facility for children, I think it is important to provide outdoorspaces for play that have a varying ambiance.



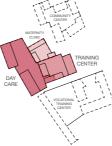
Pedestrian Connections



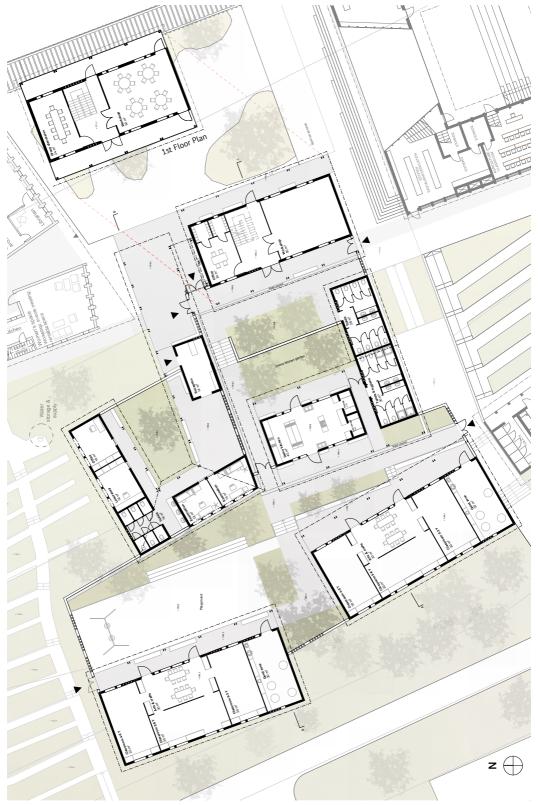
Points of Entry



Level Difference Inside the Site



Closeable Compartments



### **Step 3 - Test Project**

The ideas of the best concept were put together rapidly into a first draft of the project. Placing the functions into their places according to the needed privacy level and the connections that I wanted to make was pleasantly natural. I followed the idea of fluent level changes according to the existing terrain and tried to make it as visible as possible, both in the section and in the floor plan.

Another idea was to have different kind of transparency levels in the compound: the buildings have a solid roof that extends into a veranda and it continues as a shading pergola into the courtyard. A point where there are trees in the yard there would be no shading pergola but instead just the structures.

The turning terrain made me do the desicion to tilt the nursery building along the contours. This feature brought more dynamic feeling into the design. I had an idea of this one platform that continues into the courtyard and makes a natural place for a stage for the yard in the bottom. Other level changes in the courtyard are adventurous to explore for the kids.

It was hard to think of how to provide shelter and privacy for the maternity clinic. At this point my desicion was to have a buffer zone of vegetation in front of the examination rooms.

As a group of three (me, Anni and Pyry) we discussed of having a more visible connection between Anni's scheme and Pyry's by placing an internal private road that connects all the three projects. The internal road is situated right behind my first and the most public building and it creates a more private access also to my compound. We thought of also placing a common water tank into my courtyard.

### **Step 4 - Design Evolution**

We had this step 4 phase two times to concentrate in developing our projects into their required direction. I moved in working with my project on the computer to better understand what kind of treatment would be needed for the facades and the quality of the spaced in between

It came clear that I needed to make my room program more clear and to remove duplicate functions that me and Anni had (this meaning that we decided that Anni keeps her library and I transform mine more into a learning environment). I decided to detach the demonstration kitchen into the middle of the courtyard and to focus all the toilets and showers into their own building. This desicion created two different kind of courtyards and helped me in creating a more controlled environment.

I investigated the building masses: how wide they need to be and where they should situate. I added one more similar building for the nursery, since I felt that the project needed to be expanded to justify all the functions. My expanding project altered Anni's backyard as well, creating an interesting in-between space.

I thought of phasing the construction work into several parts, but I felt it was more natural that since the buildings are separate and have different functions, almost any of them could work as an independent facility, if only part of the design or one building would be built. Most natural would be to start with one nursery building or the maternity clinic.

The shape of the maternity clinic was evolving constantly, and finally it reached a status where it is totally separated from the rest of the design, curling into itself and creating a protecting environment.

Besides the design task, we were busy with mounting Peter's exhibition and doing Genku's climatic analyse. Both of these were very helpful and got us to think more of adapting our compounds into the Rwandan environment



Section A-A 1:400





East Elevation from the Public Square 1:400



Elevation from the Lower Yard (Nursery Facades) 1:400

### **Step 5 - Final Project**

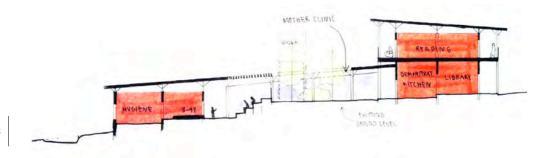
The step 5 was mostly solving the small problems that were left in the project. The buildings stayed pretty much the same but small modifications were made. The question of private entry to the maternity clinic was solved by moving the entry point to the noth side of the reception and the workshop-building was modified too.

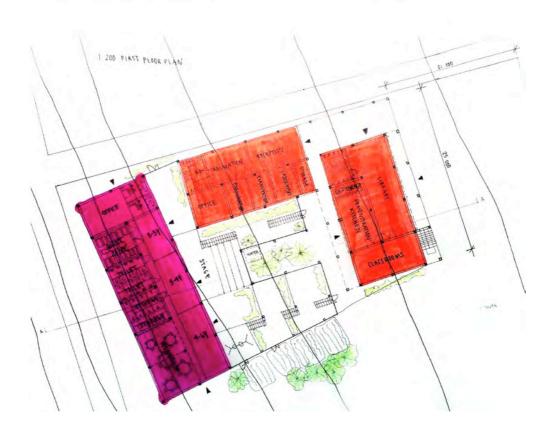
I felt good resolving the structures and adding them into the design. It was more clear to me what would work and what I don't need. Because I have so versatile courtyard levels, I would have wanted to use more hours in designing the yard as well but I got to do some small changes that made the them work even better. Also adding the water management rationalized it as well.

My idea of half transparent brick facade was under testing and I made some tryouts to find the best combination. I also considered if I should use wood in the facade but for simplicity reasons I continued using only brick.

At this point the between-areas of my and the neighbouring projects started to arrange themselves in a nice way.









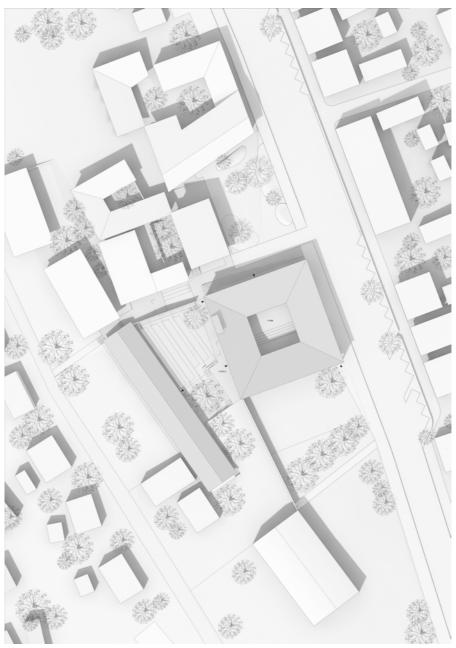
VTC is an extension to an already existing school run by the church. The school compound consists of the school building and a dormitory for the visiting students and teachers. The VTC is at the same time an educational facility and a public building serving the community. The four disciplines, handicrafts, cooking, farming and performing arts all have two sides to them: the private and the public. The private side is where the teaching happens and the public side where the students can put their skills into practice. The handicraft students can sell their products in the shop. The students of cooking provide food and waiting in the restaurant. The educational agriculture area offers ideas and tips how to manage cultivations to the villagers walking past the area. The performing arts class room opens up as a stage to the audience in the patio.

The school can also run IT classes with the neighbouring new Community Center and construction classes at the close by new Agakinjiro, the workshop area. By exposing the results of the education to the public also the community can learn and develop.

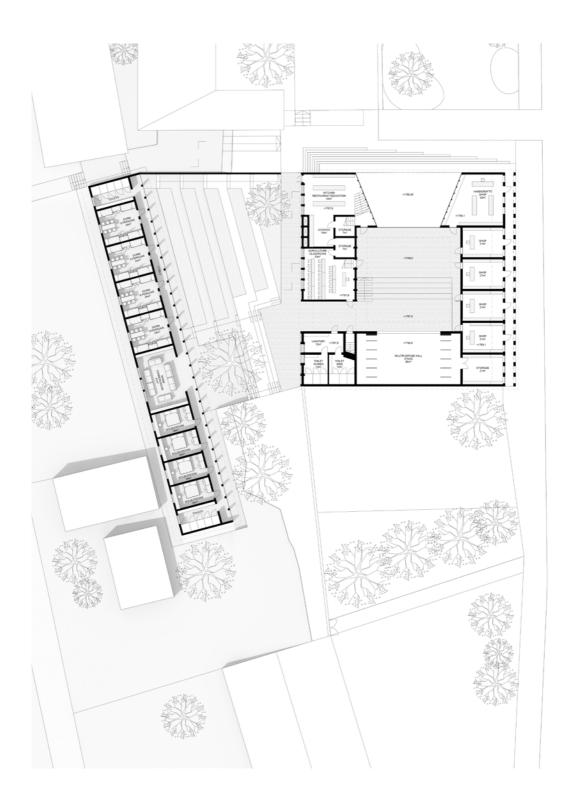
# **Pyry Kantonen**

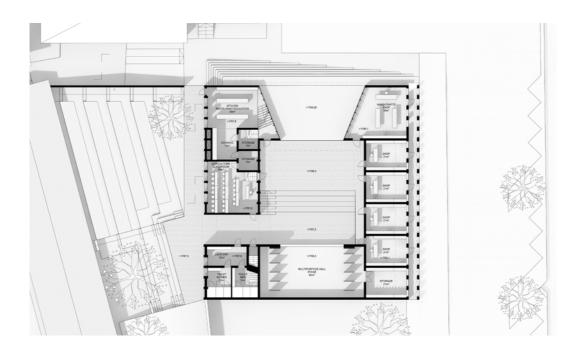
**Vocational Training Centre** 





Siteplan and Relation to Other Projects 1:1000

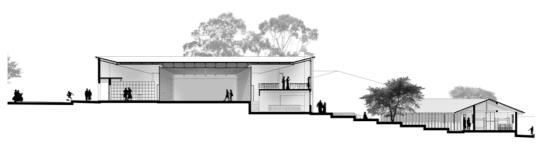








North Elevation 1:500



Section A-A 1:500



East Elevation 1:500



Section C-C 1:500







n Rwanda the courtyard provides privacy and protection. It is a place for activities like cooking or washing and a place where family and friends can meet and hang around. There is a transition from the public street to the courtyard and finally into the house. The transition can be noticed from gentle hints that lead you to the courtyard. Steps, gates and the hierarchy of the streets mark the change.

Another interesting typology in Rwanda is the football field. A sports field is more than just a place where one can play football. It is a gathering place for meeting friends, socializing and watching the game. In my project I tried to combine these two different places creating a new typology, an active public space for the youth, the Youth Center.

The Kigabiro Youth Center provides opportunities for the youth to develop their physical, social and emotional skills. It creates interaction, experiences, and friendships and is ideally a place where the youth can be themselves, grow and develop into active citizens.

## Jere Keskinen

**Kigabiro Youth Centre and Basketball Court** 



#### Why?

#### "Good morning!"

Children always emerge from somewhere shouting their greetings to you. Always a group of interested comes to observe what's happening. The number one greeting is Good Morning. It doesn't matter what time of the day it is, it's automatic and glad. The kids try to impress with their skills, what they've learned in school.

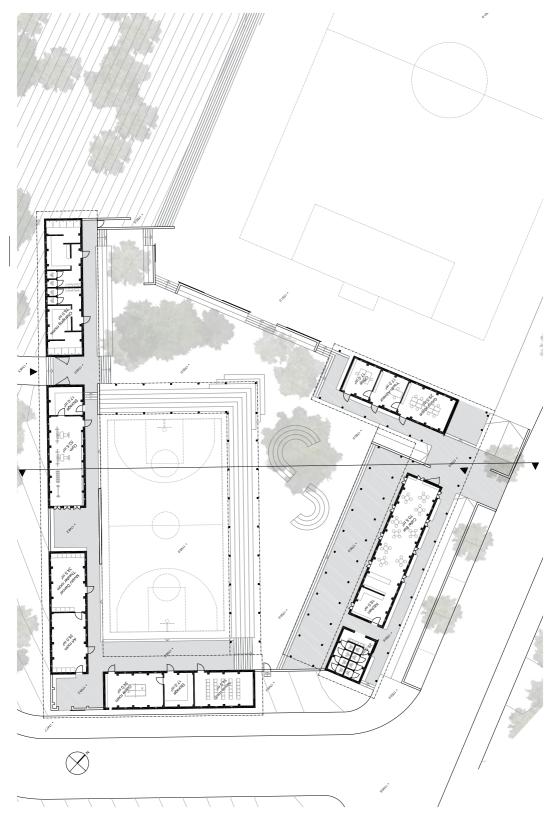
But more importantly than where the children came from, where are they going? What happens when they grow up?

The population of Rwanda is very young. 42.3% percent of the population is under 15 years old. 61.4 % are under 25 years old. You can see it on the streets. There are lots of children and young people everywhere.

The growing population is also changing in many ways. Reconstruction, urbanization, the government villagisation program, the changing economy and globalization are all transforming the country. The traditional ways of living are changing and evolving. How will the new generations find a way to make a living, a place where to live and start a family?

The government is putting effort into educating the population and improving the educational systems. They know that education is the key. The Ministry of Youth & ICT in Rwanda has a vision to raise a HAPPi Generation. The abbreviation stands for Healthy, Attitude; Aptitude, Patriotic, Productive, innovative. How could these goals be emphasized in a new public facility for the youth?

I'm interested in the phase where kids start to become teenagers, the youth, the young adults. To introduce a public facility that provides support and opportunities to everybody in a less formal way than for example the educational system. A place for the youth to be active, have fun and develop..



#### What?

The Youth Center provides a space for the youth. It provides opportunities to develop their physical, social and emotional skills. It creates interaction, experiences, and friendships and is ideally a place where the youth can be themselves, grow and develop into active citizens.

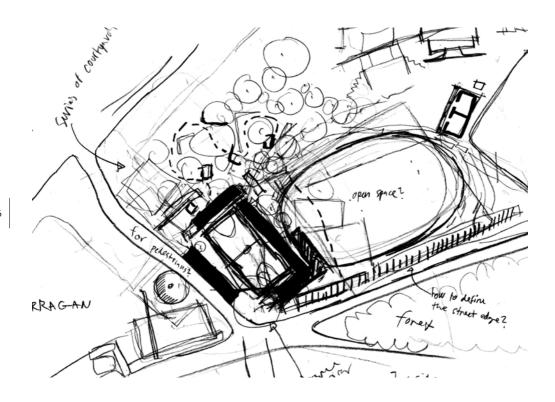
The youth center could partly just provide spaces and material to be used by the youth as they wish

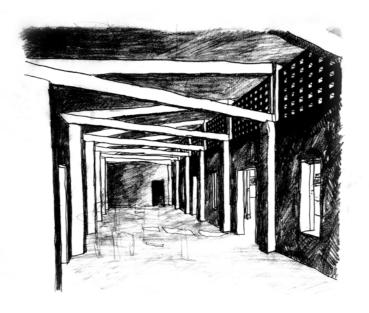
but also arrange more structured activities such as courses, clubs, excursions, events etc. Some kind administration or youth workers could also provide help, guidance and support to the youth and organize program and events.

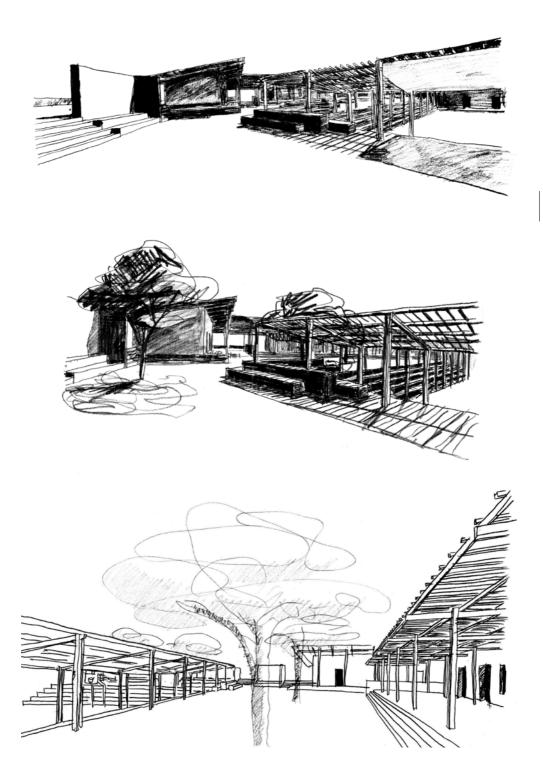
A public facility that provides opportunities and help to the youth that is completely voluntary. An additional place besides the family or school where youths can find fun help and support.

#### How?

I started from three concept approaches: A singular basketball courtyard, a combination of a village and a forest I dubbed "love forest village", and the concept of landmark place. Each approach had its pros and cons, While a basketball court is efficient in its land use, feels very central and is a gathering space, I felt it is too sports concentrated. The love forest village was a way to expand the footprint, creating ample inbetween space and providing a chance for incremental growth but seemed a bit too land intensive for what I wanted to accomplish. My final landmark approach was good at both creating identity as well as being a multifunctional space which had ample other uses aside from sports, however to be truly a landmark it requires quite a grand scale. These three concepts condensed into one complete whole which accomplishes each of the pros while trying to minimise the cons.









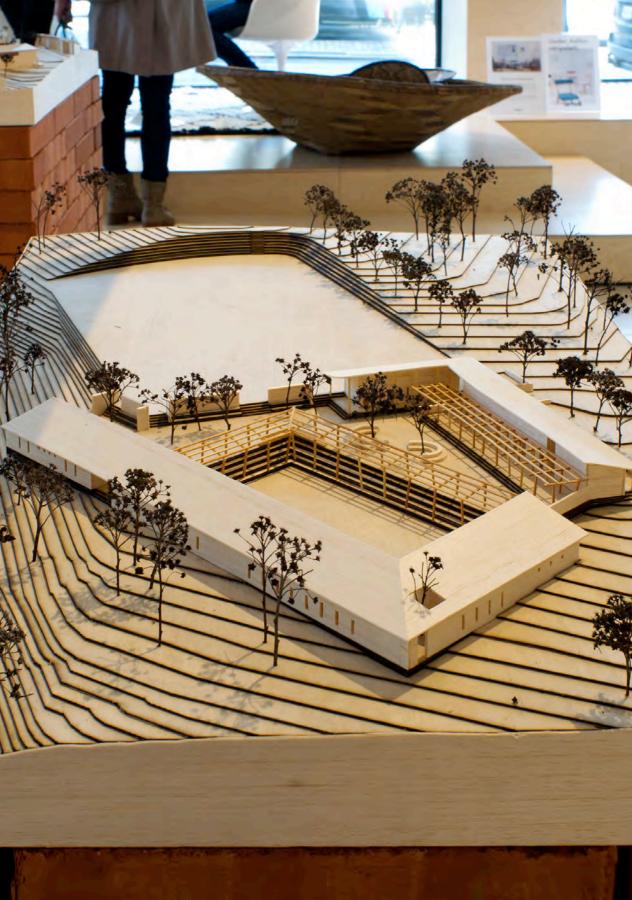
Siteplan 1:2000



Section A-A 1:500

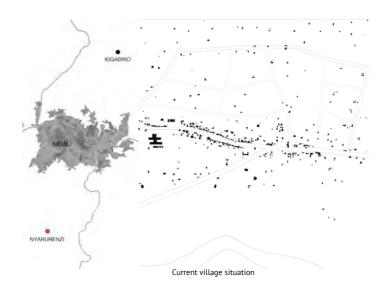


Section C-C 1:500









The Nyarurenzi village sits on a south facing slope on the side of a hill, approximately 30 minutes away from downtown Kigali by car, with a winding river running through a wetland at the bottom of the area. The 22 hectare village currently has some 250 houses, most of which are clustered around a main road, with scattered single houses among the surrounding plantations and fields. According to the current Kigali Master Plan, the area is designated to become one of the Model Villages championed by the First Lady Jeannette Kagame, and will be much more densely populated, with around 2000 new dwellings to be built in the near future. Commercial activity is concentrated around the collector road, with small shops and restaurants catering to the community. The village also has a sizeable and recently completed hospital, built by Belgium, which services the whole sector. The focal point of the village public life is a small partially covered marketplace, which is mostly used by gardeners and farmers to sell their own produce. The market also attracts shoppers and vendors from the neighbouring villages. Other amenities are farther away; at the moment the nearest primary school is in the next village to the west, some 30-40 minutes walking distance away. However, a new Early Childhood Centre financed by UNICEF and designed by the Active Social Architecture studio, is being built and soon to be completed on a site next to the village administrative office.



I wanted to create a place for the youth of the village, for the kids and teenagers that today have no place to call their own. As we visited the site, almost everyone between 10 and 25 answered the same thing when asked what was missing from their village; a good football field, good gathering places, workshop spaces and indoor spaces for them to organize events or just hang out together.

The site is located in connection to the green area of the village, and in between the main street, the UNESCO nursery school and the future elementary school. The Youth Center consists of a public path and a village-inspired center, where all the buildings are situated along the contours of the hill. Along the public path one can find for instance a cafeteria and a shop, whereas on the other side of the wall there are functions such as classrooms, activity rooms and workshop areas. All the brick buildings are painted in bright, happy colours to represent the colourful life of the Rwandan people, and numerous of trees are providing shaded places all day long for the visitors. The different heights and sizes of the platforms create a variety of interesting places for diverse purposes. This is a place for the youth, where they can socialize, learn and grow.

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## Annika Karlsson

**Nyarurenzi Youth Centre** 



During our first site visit to the Yarurenzi cell in the Nyarugenge District, we got to know all the basic facts about the place, such as population, number of houses, future development plans, history etc. At the same time we were shown around in the village, and got to see both traditional and modern solutions for housing. We also visited Tomá's project, a nursery school for young kids (< 6 years) which was in the process of being built.

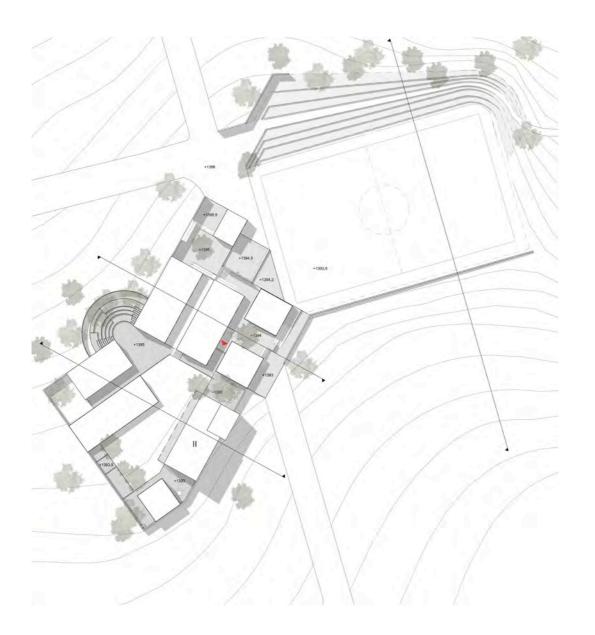
During our second visit, the idea was for us to get to know the village and its inhabitants better. Half of us went off to battle with the bureaucracy as we needed some permissions for our visit, and the other half stayed put in the village to start our research. We immediately began talking to some curious kids, and as the Rwandan architecture students helped us by translating, we got to know more personal facts about the village. We asked the kids what more they'd like to see in the village, and the answers were for example football field, volleyball field, sport facilities, open spaces to gather and work together, indoor spaces for playing etc. We also learned that they'd like to have a place where they could gather and produce stuff together that they later on could sell, and in that sense bring money to their families. These kids were young, and it amazed us that they already had these mature ideas.

Later on, we also spoke with grownups of the village, both women and men. The women told us that they'd like to have more facilities for gathering with their friends, for meetings, for consultations and for working together. The men on the other hand, mostly wished for more sport facilities such as football fields, for both kids and grownups. We also learned that the inhabitants of the village produce lots of different varieties of vegetables, but that the soil is very suitable for fruits as well. The problem is that they lack knowledge and experience of growing and producing fruit as an agricultural business, which is why they don't pursue it.

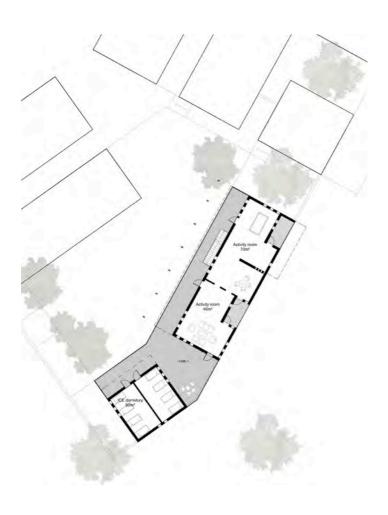
We began our third visit by visiting the school, which is currently situated approximately 40 minutes by foot from the Yarurenzi village and is shared by three villages. Next to the school there is a football field, which is surrounded by some small shops and a tiny training center. These shops are open between 11 and 12 AM and in the evening. Personally, I had already gotten the feeling that the children are the ones most in need of new facilities, which is why I slowly started focusing more on their needs. As we spoke with some of the school kids, we learned that one big issue is that the children who has school in the afternoon don't have anything to do in the morning, so they just hang around the school doing basically nothing but wait for their shift to start. And the children who has school in the morning, lack anything to do in the afternoon as everybody is working and everything is basically closed. They wished that there would be some kind of a facility where they could just hang out, play, do handcraft, do sports, read or simply just be. This is how my idea of creating a Youth Center started.

I'd like to create a Youth Center for both younger children and teenagers/20 something young adults. These age groups are in need of simple facilities where they can gather for different purposes, both for leisure, education, life skills training and work. The facilities need to be easy modifiable for current need of use, either if it's for a class, a workshop or a fun gathering. Young people need a place where they can share their knowledge with each other, learn from each other and help each other. There should be a place where experts from Kigali (or other cities) can come and teach the inhabitants of the village, and a place where they can practice what they've learned. The youth is also in need of places where they can just hang out, read a book, be creative, socialize etc, which is the purpose of a Youth Center.

A Youth Center is in my mind a multipurpose center, it should at the same time also function as a cultural, sports, community and educational center. Its facilities should support the various needs of the young inhabitants of the village, and simultaneously feel like a safe and familiar gathering place.









West Elevation 1:500

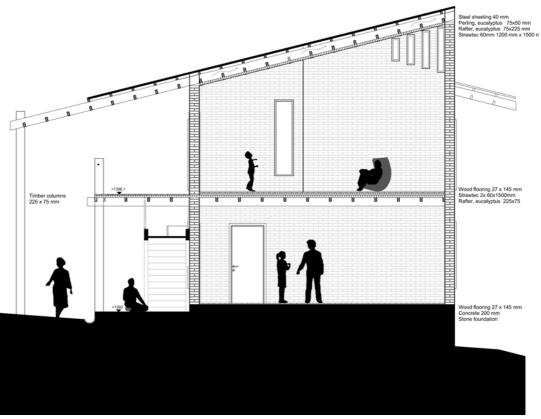


Section A-A 1:500



Section B-B 1:500





Sample Section 1:100



My design consists of a compound that cradles four courtyards at different elevations, each serving a distinct function as a part of a cohesive whole. The purpose of the entirety of the building is to provide facilities for existing services and social programs, and to introduce alongside them, prenatal, maternal and child healthcare and mental healthcare services. In a grander scheme, the project aims to create a better future for Rwanda by focusing on those who will shape the country the most, children and the people who raise them.

The north-western courtyard is surrounded by the prenatal, maternal and family healthcare centre which aims to not only provide medical health care, but also facilitate the introduction of mental healthcare into the Rwandan vocabulary of life. Cradle like booths form a small village in the courtyard, and are in place for people to gather and discuss things in a comfortable and private place.

A government run nutrition centre is in place in the north-eastern courtyard. It provides nutrition and hygiene education to families and especially children, providing a place where the necessities related to both can be taught. The nutrition program also ensues a proper lunch for the pupils of the nearby pre-primary school.

The two lower courtyards are for outreach and education purposes. The courtyards provide space for ad hoc gatherings and the adjoining workshops with openable walls enable more organized events with varying levels of privacy.

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## Jere Pääkkönen

Prenatal, Maternity and Early Childhood Centre

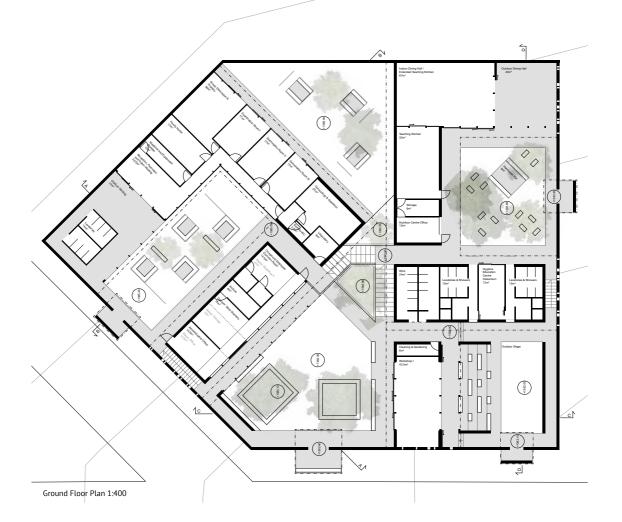


#### **Fundamentals**

A subtle guietness reigns over the courtyard at the centre of the cistercian cloister in Fontenay, southern France. The archways create shade that protects from the surprisingly hot sun, letting its rays gently traverse along the floor interrupted only by the rhythm of pillars that circle the courtyard. While Rwanda and its architecture is worlds away from that of a medieval romanesque abbey, at its purest it still carries a sense of calm and meaning that for my secular mind is sacred in a very human way. Abodes that have over time evolved to reflect the way how everyday life functions, most often only offering the bare necessities and created in very ad-hoc but consistent vernacular, relate a strong feeling of what life within them is like. Simple Rwandan homes often are, for me, like cistercian abbeys, thoroughly embedded in the everyday life of whoever dwells within, void of unnecessary complexity. It is reasonable to arque I admit, that my view is somewhat romanticized, and in reality much of the vernacular also represents strife and scarcity, but I whole heartedly cherish the fundamental way it has touched me. Due to the incredibly fast development of Rwanda, there is real risk that the very core being of this beautiful way of living will be lost in a very short span of time, and that one day the last opportunity to experience it will not much differ from the way of the abbey at Fontenay. With all this in mind, and all that I learned form the people of Rwanda, I set forth in designing what would be for me, a building that forever changed how I think about architecture.



Siteplan and connection to unicef pre-primary 1:2000



### Observation

While visiting our village of Nyarurenzi at the outskirts of Kigali, I quickly noticed the distinct lack of local women, aside from very young children, among those who usually spent their time in what westerners would call loitering, along the central road. It is very much and quite understandably so that a gender gap exists in rural Rwanda, where family roles are still traditional. Thus I took every chance I could obtain to talk to women no longer in school, to find out about their lives, chores, social connections and what for them is the public sphere, as it was at that point obvious that it was somewhat different from that of local men. The handful of people I managed to speak to formed an admit-ably quite small sample, but gave invaluable information on what kind of information I should seek out elsewhere. At that point, I was rather sure that I want to design something that could enable women to become more a part of public space, something that they could call their own and develop in the direction they wished it to.

### **Analysis**

Once back in Finland I took to reading approximately 200 pages of studies, mostly focusing on mental and sexual healthcare for women in Rwanda, current governmental programs that exist in Rwanda and analysis of progress. I divided my acquired knowledge into three categories: issues of social fabric, social needs and existing social systems. From these categories I then picked out subjects that most fit my experience of Nyarurenzi, but also those that in studies seemed most productive when considering the future of Rwanda. I ended up with three subjects that worked well together and that could form a coherent and sensible basis for my design work. These were facilitating sustainable social change, servicing the basic needs of women and children and enhancing the function ability of existing social services.

I then wrote the following as a synopsis of what I wish to achieve: "My aim is to introduce the Finnish 'neuvola' or maternity and early childhood clinic concept into the Rwandan social service fabric to function as a key point of social impact in their developing country. By centralizing related exiting social services into one location, and introducing solutions well tested in Finland to function aside them, we can easily create a catalyst for developmental change. Through connecting all these services in a more accessible open manner it is easy to introduce modern mental health services and family counseling little by little into the everyday life of Rwandans. Underlying all of this, I wish to provide spaces that facilitate open discussion on the subjects previously mentioned, but also a place that can become a beacon for positive and healthy social change in Rwandan society. A place that proliferates and serves as a beacon for wellbeing for all future Rwandans. If all these services manage to stay accessible to all, this will ensure that income inequality will not manage to rampantly tear into the social fabric of Rwanda. Rather it will provide women and their family equal opportunity to socialize and communicate."

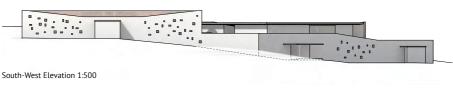
### Concept

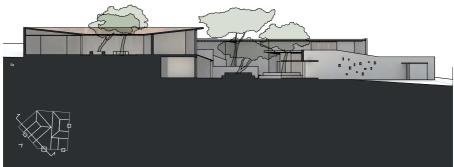
During my designing process I went through numerous iterations of different approaches in trying to achieve what I wanted to, and had by far the hardest time I have ever had on any design course in doing so. But through those different ways of looking at things, I little by little whittled the very core of my design, reducing everything to bare necessities, until I had, at last a design that I felt transmitted what I wished it to while at the same time not sacrificing functionality or sustainability.





Section A-A 1:500





Section B-B 1:500

Each courtyard serves a distinct purpose, is enclose-able to be a self-sufficient part on its own and has it's own entrance. Each entrance is small and innocuous aside from the main entrance, creating a sense of belonging once people become accustomed to the building and can move using the more discrete ways of entry and transition. The plan is very much influenced by a cloister, as I wished to create spaces that if need be, can feel secure and calm. The level differences follow the contours of the hillside plot, but in doing so create a hierarchy of privacy ranging from the very public lower courtyards to the most elevated healthcare structures. Everything is connected with a staircase that also servers as a transition point between the two axis of the building that are defined by the nearby roads. All courtyard outdoor space has been managed so that it creates variance in how people can stay and interact with each other.

### **Gratitude**

I feel a certain empathetic proudness when I think of Rwanda. For a country with such a scar to heal, it has come a long way and is headed towards greatness. I cannot but admire the resilience of Rwandans, and their everyday attitude towards life. There is much we can learn from them, and vice versa. My only hope is that progress in the sake of progress will not become rampant and ruin what they have so gracefully achieved. I consider myself lucky to have been able to learn and the apply what I have learned in a very rare context that is fleeting and will vanish in time. I have gained so much from my insignificant strife with this project, and even more so from all the thoughts that it has conjured up in my mind. While I feel there is a sense of naïveté in the grandeur of what I wish one design could accomplish, I chalk it up to very same romanticism I fell victim to in my preface, and leave with the thought that due to it, I have learned quite a lot about an admirable people and their architecture.



Perspective view of Reed Discussion Booths



Perspective View Looking Down at the Entrance Courtyard



Perspective View of Nutrition Centre Courtyard



Viewing a Movie on the Open Stage



The Iterambere umudugudu is set to go through a dramatic change in terms of available livelihoods for the residents, which for the majority at the moment is subsistence farming. The population of the umudugudu will very likely increase in orders of magnitude as the construction of the village becomes dramatically denser in the next 10-20 years. This would be due to the Kigali Masterplan 2013 and the construction of a new airport nearby placing a pressure for urbanization on the now rural area. This type of development would lead to diminished farming plot sizes as the new construction takes over arable land, requiring more modern and sophisticated farming methods and possibilities to process and ship the raw produce to add value, and raise or at least maintain the standard of living for the residents.

The Agrihub is a mixed used complex of buildings designed to catalyze advancements in the production cycle of the local agriculture in the village. The program includes a market for green produce in and around the courtyard of the main building, with areas designated for different types of vendors according to their rate of rotation; Permanent or almost permanent vendors rent stalls on the west side of the courtyard, while the rest of the open market space is reserved for more infrequent vendors, who might sell their produce only on a few a days each week. Upstairs of the three level market is a collection of spaces for educational and financial services aimed at facilitating adopting new agricultural practices and improving existing ones through community workshops and seminars.

## **Reko Laurilehto**

**Agrihub** 

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## A catalyst for raising the standard of living through communal farming (Agricultural Development Centre)

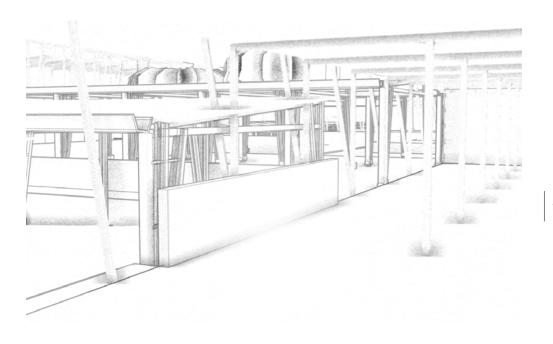
The role of the Agrihub is to provide a democratized facilities for processing the produce of the umudugudu for sale in the local or domestic market or export, as well as provide information, education and finance services related to urban agriculture.

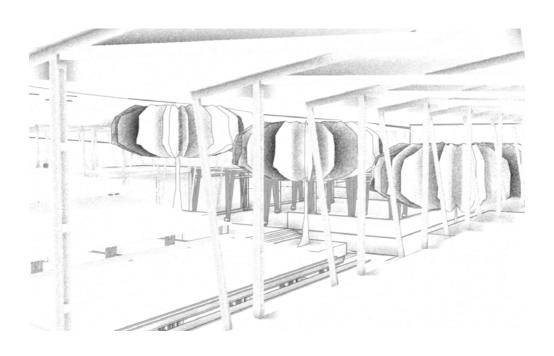
In the Iterambere umudugudu where the sites for my team are located, 22 hectares of land are zoned for medium rise housing (R3) in the Kigali Masterplan 2013. According to Enrique from the city planning office, the planned density for a R3 type area is 100 dwellings per hectare, which would make the number of homes in the area into 2200. Compared to the current stock of 250 houses.

The dominant element of the economy of the umudugudu is the subsistence agriculture practiced by the residents. The site is on a hill slope and the area (according to the villagers) receives less than average rainfall, which quickly drains into the nearby wetlands. Although the soil seems fertile, sustained droughts are common, and dramatically affect the residents' income as they struggle to feed even themselves out of their own crop and have less to sell on the market. Thus, improving the food security and independence of the area is vital to raising the standard of living. To accomplish this, more efficient solutions for irrigation and food processing must be found, as the increase in population will decrease the amount of arable land available for cultivation and further pronounce the prob lem if steps are not taken to address it.

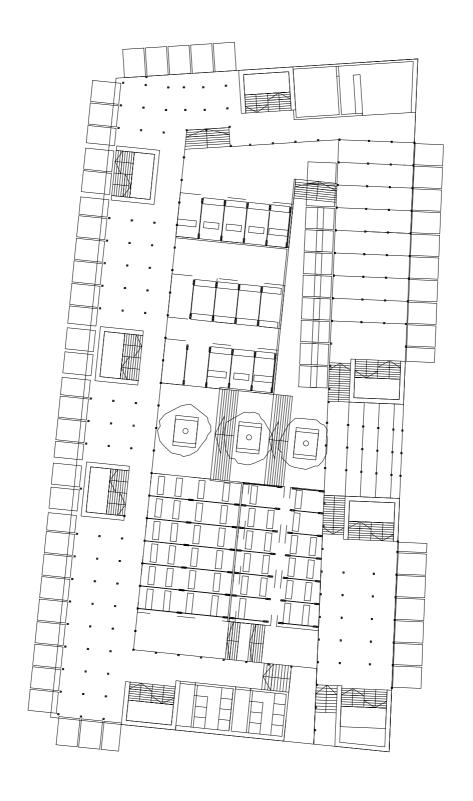
Currently the villagers, in addition to the kitchen gardens on their property, mainly cultivate small and medium parcels of land south of the umudugudu designated area. These plots are situated between the village's main road and the wetland and river at the foot of the hillside, and have been passed down as in heritance from previous generations. Each family is responsible for their own plot and usually chooses to plant a variety of food crops, mainly maize, cassava, ba nanas, beans and potatoes. Also herbs for medicinal and flavoring use are grown in smaller amounts. The wetland also hosts a stock of wild bamboo and reeds that the villagers occasionally harvest for use in construction. These are used as material for ceilings, scaffolding and as reinforcement in the mud walls. The river flowing in the valley towards Lake Victoria, is used for bathing and as a source of fish and irrigation by the villagers. It also supports a population of hippopotamus and Nile crocodile..

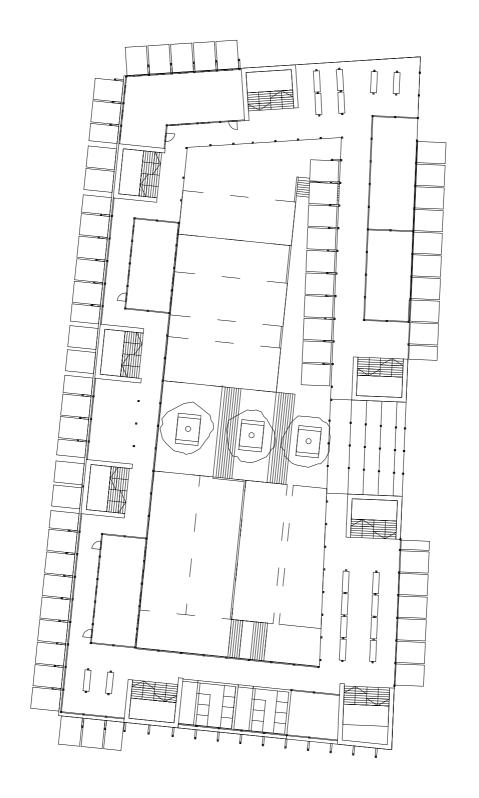
From interviewing the umuduqudu residents, a few trends seemed to be prev alent in the development of agricultural practice in the area. This needs to be confirmed, but the villagers as well as the KIST students identified a government policy of introducing land consolidation and targeted monoculture. This means that the administration is researching the growth conditions in the country area by area, and evaluating various parameters, such as soil and precipitation con ditions. According to these results the different areas are assigned a designated crop that is optimal to be grown in the existing conditions. The conditions in Iterambere would seem to favor growing maize. The goal of this program seems to be improving the efficiency of food production on a national scale. Historical ly this ideology has prevailed in most industrialized countries, with vast regions specializing in a single form of farming. This will mean quite a dramatic change in lifestyle for the villagers, however, as they are no longer able to rely on their own produce, but are required to trade with other regions to gain income and purchase the commodities they need on a daily basis. In other words it is a definitive effort by the government to push the more rural regions towards a more contem porary market economy. Big business investment in agriculture also seems to be growing, with investors moving in and securing the most favorable plots near the river to be used for growing sugarcane, a cash crop.





Sketches

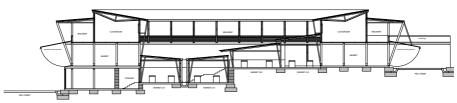




The plots adjacent to and on the wetland are naturally easier and more economical to irrigate and also receive fertilizing silt as the river floods during the rainy season.

With all of this in mind I started thinking of a way to provide the residents of the area with a method of coping with the transition to a new type of economy. My proposal for a public building for the area is an Agrihub, a public amenity accessi ble to all residents providing services and facilities in education about agriculture in a more urban context, micro financing services for fledgling farming schemes, access to improved irrigation, processing and packaging technology and demon stration gardens, possibly an aquaponics plant. Originally I envisioned the Agrihub to be more a facility for informing and experimenting to discover and prolifer

ate new and improved farming practices. After discussing the scheme with the professor and tutors, however, I realized that it should also provide more practical means of fostering communal entrepreneurship. Especially prof. Rich's comments about such projects being done in South Africa, and focusing on monetizing the crops by upgrading the packing and processing part of the process, helped here.



Section 1:500



or many years the marketplace within a city context has provided a place for the community to meet, share, discuss, and live together. The Rwandan culture relies on the ability to produce and share. During the day, people work on the land, harvesting, gathering, cultivating, as each person participates in the gathering and growing of the local produce. This highlights the importance of a market culture as a place to share the day's goods, share a table, share a plate, and share a smile.

The Nyarurenzi Market Place sits at an important junction within the town. At the crossroads of two major streets, the market place acts as welcome sign to the community, drawing people in from multiple entrances and allowing people to flow through from the surrounding buildings, The Chapel, and The Agriculture Hub. Working with the existing contours, the gently stepped market allows for multiple terraced circulations, providing a constant visual connection across the market.

### | |

# Marjike Davey

To Market, To Market



### this is our place...

What makes a city? What makes a town? What makes a neighbourhood? What makes a home?

How do you know what street you live on? What shop sells your favourite candy? Which turns you take to get to your destination? How do you navigate through the streets? where is the short cut? the secret passage? your favourite tree? that spot where that girl told you that she liked you? How do these spaces link the town environment, and how do you plot a course through them to reach your goal? The way that we interact with our built surroundings is dictated by many factors, planned and unplanned, cultural, habitual, where we can stop and rest, where our children can play. What are these elements? how are they formed? how can they be integrated on a masterplan in order to reduce the scale from helicopter to a person on the street? It is this fabric that is essential to life, to wandering, to sharing, to stopping, to talking, to community. How can these elements inform and create a network of spaces and also inform a larger program of marketplace.

## what do we pack?

what happens when we leave a place? when we are told to leave a place.

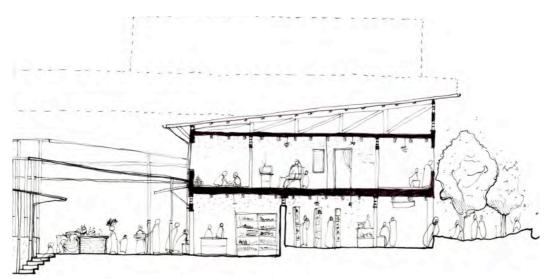
How can people be expected to adapt and evolve from one environment to the next? what are the objects that we retain, collect, value. A shopping list written by a lover, a photo of a parent passed, a tapestry painstakingly weaved by a grandparent, two small glass marbles. To gather ones possessions, to pack a box, to stuff a bag, the act of moving is an act of loss. A loss of space, of memory, of shared dinners, of where you watched your child grow, of shelter. How can the movement of home, the changing environment facilitate a retention of culture? How can the surroundings of a new home offer the opportunity for the growth of culture, rather than squashing it under a six story building.

to market, to market attempts to hold onto a cultural aspect of the Rwandan countryside - a culture that lives through the sharing of goods, of land, of soccer balls, of smiles. The daily rituals of the existing community revolve around time spent in the fields, working and gathering and then bringing supplies to market to share with the rest of the community. It is this ritual that keeps the community alive, allows for a sense of place and encounters with all the members of the community. It is this sense of place, this knowing of the colour of the ground that you stand on, a colour that is spread all over the landscape, the colour that then becomes the walls of your house, of your floor, of your childs hands as he piles the colour up to make a smaller version of the place you call home.

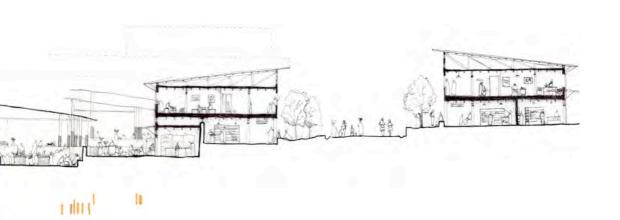
Taking inspiration from other marketplaces withing Kigali, to market, to market follows the existing contours of the hill as it steps down, each level of the marketplace full of life, produce, kids playing, and loud conversation as people flow in and out through the multiple entries, filtering down through the spaces to find exactly what they need, be it bananas, or fabric, or a warm smile, all housed under one roof.

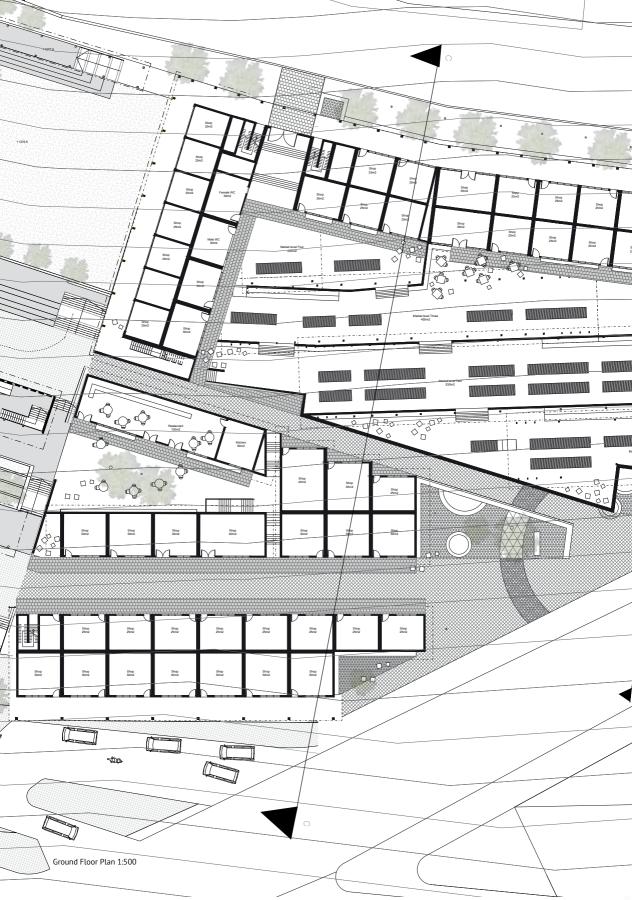
to retain, to retain.

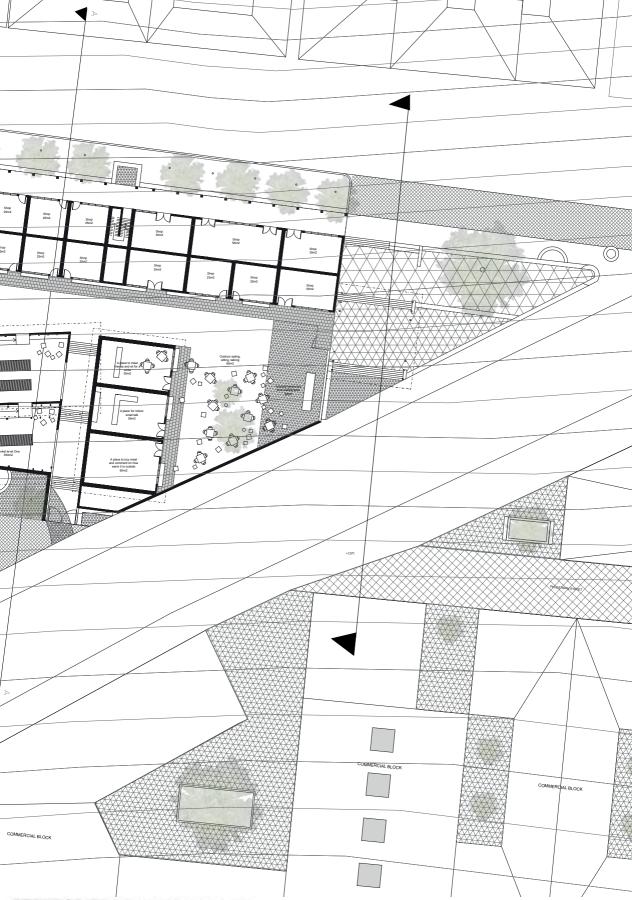


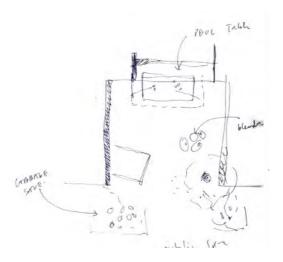


Section Detail from Section B-B 1:400















This proposed Catholic Church will be placed along with the market which is the most bustling centre of the village. It is located on the lower side of the main street. This church accommodates not only people who come for mass; it is also an accessible place for ordinary lifetime events such as marriage and funeral.

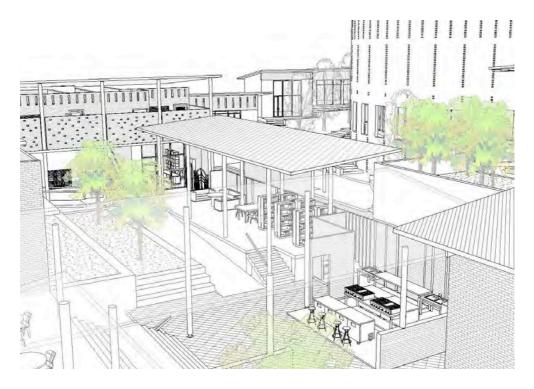
Especially in Rwandan society, the role of outdoor public space is significant due to all year around pleasant weather. They enjoy time with others under shades. In the planning we focus on "How people get together within public spaces whether it is market or church." I wish the chapel could became an adorable area where people can reflect their lives within the daily routines.

# **Byungmin Youn**

**Catholic Chruch** 

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#### In Rwanda

I try to have discreet manner of approach to understand Rwandan culture and situations because it will be my first visit in Africa and Rwanda. Also, most of Rwandan people have been suffered serious war and brutality during last several dec ades. During my small research on modernization and history of the country, I found that there were similar affairs what Korean modernization experienced during the last century. Rwandan society is in a very fast phase of economic growth driven by government. However, I wish the society take care and respect their culture and tradition even in small villag es.

Since the first day we visited Nyarungenz, it was dry and warm compare to Kigali city. So, the people could not active during the day time. Afterwards, the market area started to make noise around 5pm when the sun was weakened.

The local bring foods from their field around and most house holds had banana garden on their back yard, but the food exchange with money was active as well.

Another feature of the area was river. The water flows slowly beyond the village and there was huge wet land in between. Thus, some agriculture were happened in there mostly sugar cane(different from hill around the village)

When we arrived the town, we could easily read the structure of village there was house and small shops along the main road. Along the road, people was selling fishes and vegetable as small businesses. Behind the one or two rows of houses there was dwellers sparsely. The detached houses away from the road with bigger spaces usually had livestocks.



Surprisingly, I could find a single's house in the middle of the field as well. It was great fortune for me that I had a small interview and see inside. It was will to independent from their parents what commonly happen everywhere in the world. Even though it was small scale, the house had most elements a family house has such as pigs, ba nana trees, fences, back and front yard.

I also dropped in a family house(common) where had four kids in there. Regardless the number of people living in the house, the plan of the detached houses shared many features. For example, 1. they usually has front

and back yard bounded by fence. 2. there is banana tree garden in ther back yard. 3. toilets and pigsties are also in back yard but detached each other. 4. houses have min imm indoor spaces compare to outdoor area.

## **Design process**

I started desgin with representation expressing Rwandan territory and their gathering culture. Therefore, I initiated with small units of cell which symbolize a crows of peo ple who have equality. After I do some sketches related

to this idea, I found that the abstracted shaped of people do not affect on any human activities. Therefore, I simply started again with pure architectural geometry based

on construct ability and providing shelter for human gathering.

nother deciding factor of this project was having relations with surrounding urban structure. In the same time, I had chance to design urban spaces with much freedom. Therefore, I could begin with respect existing terrain to minimize the work load and environmental affect. With Prof. Peter Rich's suggestion I and Marijke could keep figure out the urban structure providing parallel commercial pedestrian path passing through new core public buildings and spaces.

During the time consider the proper scale and configuration of the plaza in between market place and chapel,

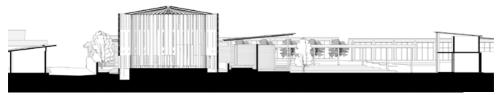
I did some reference study and allocate the different char acter of the open areas.

#### Plan

I started intuitionally with a circle and it could be sim plified form of the prior proposal. Also, with having two smaller round brick structures, I wished to solidify the atmosphere of the chapel area which will different from other buildings. Next, I want to give a rhythm to circles by modifying it on different levels. Thus, they naturally provide various spaces and flows in each conner from.

I spent several days to design proper transiting entrances. In the first phase, I put a similar long box as it was other side of the chapel, but later studying with physical model, I brought wedge shape of roof for the main entrance. It well harmonized with the angled path on the west side of the church. Next, pilgrimage continue along the out wall of the chapel and it is rounding slope. People also pass the small chapel where some communal activities could happen.

It is small chapel as this chapel has big outdoor spaces. In core space many meaningful life time event could be happen. In urban context, not all the big events and ceremony are allowed in one's home because of limited spaces. Also, many civil event and casual gathering places are possible in safety and peace.



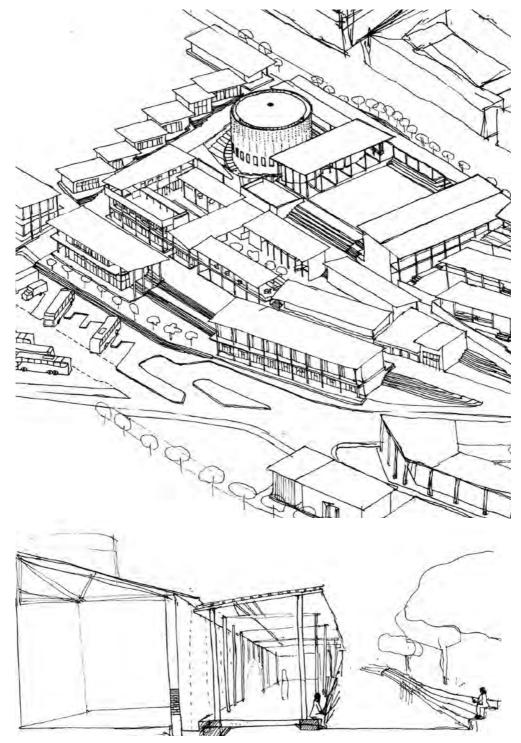
Section A-A (Scale Unknown)



Section B-B (Scale Unknown)

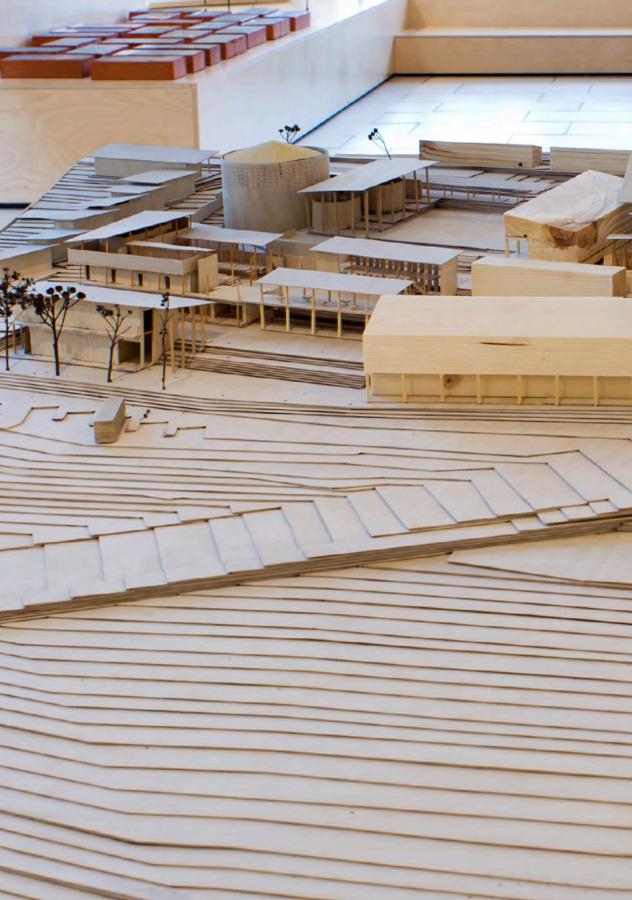


Section C-C (Scale Unknown)



Sketches

Scale model on display at the Artek exhibition Photo by Anne Kinnunen





Nienerberger

#### 1/0

# **Acknowledgements**

## **Teachers**

Peter Rich, architect, professor Saija Hollmén, architect, lecturer Helena Sandman, architect Genku Kayo, Dr. of Eng, energy and climate

## **Guest Critics**

Architect Markku Komonen Architect Juhani Pallasmaa

## **Rwandan Support**

Tomà Berlanda, architect, ph.d Timothy Hall, architect

## **Visiting Lecturers**

Thomas Elfgren, chief inspector
Peik Johansson, journalist
Marie-Alphonse Liwata, architect
Donna Rubinoff (CokK)
Connie Schmidt (ESRI)
Samuel Shearer, Culture anthropology PhD Student, Duke University
Alex Mulisa (Fund for Environment and Climate Change FONERWA)

# KIST (Kigali institute of technology)

Minerve Dukunde Flavia Gwiza Apiane Ndorimana Emmanuel Nyirinkindi Yves Alain Twizeyimana Theophile Uwayezu Jean Paul Uzabakihiro



During the academic year 2013-14 the Aalto University Department of Architecture, with the generous support from Asko Foundation, organized a Master Class with professor, architect Peter Rich.

The Master Class took 10 students of architecture for a two-week field trip to Kigali, capital of Rwanda, to learn about the features of a foreign culture, and to work with disadvantaged local communities. The design task was a public building for an existing need, using participatory planning processes and collaboration with local people.

The focus of the course was on community empowerment through participation, sustainable design solutions and culturally knowledgeable architecture. The course included studies on local building traditions and materials, as well as social, economic and climatic characteristics of the local culture.

The course aimed at providing the students with a wider perspective and understanding of the processes of the architectural practice when working in various cultural contexts.



ISBN 978-952-60-5854-2 ISBN 978-952-60-5855-9 (pdf) ISSN-L 1799-4853 ISSN 1799-4861 (pdf)

Aalto University School of Arts, Design and Architecture Department of Architecture www.aalto.fi



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