
HILDA'S

INTRODUCTION

In February 2017, a two-week international student self-built project organized by Wismar University took place in the South African township "Joe Slovo West" near the coastal city of Port Elizabeth. Based on their own previous design work, 17 students of Wismar´s Faculty of Architecture and Design erected a building extension for a typical "Mandela" residential house, working together with local students from Nelson Mandela Metropolitan University (NMMU) and PE College.

Built predominantly from recycled materials, the small building creates high-quality outdoor and business spaces, thus complementing semi-public and private functions. For a second building extension prototypes were established, preparatory measures were taken and building materials purchased. The project is currently in the process of being completed by a local team. Further residential extensions and new public buildings are in students´ design process, again taking place in close cooperation with planning partners on the local side.The project is based on a holistic interdisciplinary approach, dealing with technological and ecological aspects, but also incorporating a particular focus on the social component as an essential objective.

Within the project all members of the international student team have taken the opportunity to gain valuable building experience, but also precious personal encounters by working together, thus making friends, with fellow students from very different social backgrounds. Focussing on various aspects of sustainability, the overall project intends to go far beyond this workshop, promising to generate a new impulse for Social Change in South Africa.

"Topping-Out Ceremony", Feb 21st *Photo: A. Saß*

ACKNOWLEDGEMENTS

For the success of this project special gratitude goes to my project partner Kevin M. Kimwelle and his team, for initiating and facilitating the project with great personal commitment. Their share of the project organization, their mediation with local residents and especially their tireless pursuit of long-term project achievements deserve our greatest respect.

Special thanks also go to the Nelson Mandela Metropolitan University, in particular Prof. Sijekula Mbanga and Prof. Janet Cherry, for their continuous academic support to the project.

My warmest gratitude goes to the presidency and estimated colleagues of PE College, for their professional support and friendship, for believing in the project and for making their resources available to our team at any time during our stay in South Africa.

Both academic partners showed great confidence in our project and the trustworthiness of individuals. Thank you for that.

Very special thanks go to all partners and sponsors, first and foremost to Wismar University of Applied Sciences, in particular the Department of Research and Innovation under the direction of Prof. Dr. Marion Wienecke, for the financial support of the project within the scope of internal research funding. The future-oriented subject of the field and its reference to research, teaching and practice are thus particularly recognized. My thanks also go to the Förderkreis of Wismar University for supporting the student film project as well as the spontaneous and encouragingly unbureaucratic preparedness to do so.

I would like to thank my colleagues Prof. Dr. Marcus Hackel as well as Regina Krause, Managing Director of the Robert-Schmidt-Institute of Wismar University, for their inspiration and professional support.

Special gratitude goes to all friends and students who contributed small and larger donations to our project account on www.betterplace.org/p51290. The budget is currently growing again, so that a continuation of our project activities appears achievable.

I would like to thank all partners and sponsors for especially generous donations and the confidence thus expressed in our work. In particular I would like to thank the Norddeutsche Stiftung für Umwelt und Entwicklung for supporting the project with revenues from BINGO! the Environmental Lottery.

Particular acknowledgement is due to Mr Gerd Wolff from the Sigi and Hans Meder Foundation, for including our project partner and PhD student Kevin Kimwelle in their scholarship program, thereby supporting his multidisciplinary research and project work.

Very personal thanks go to Prof. Volkwin Marg and Mr. Hubert Nienhoff, founder and partner of the architectural practice gmp - architects von Gerkan, Marg and Partners, as well as to my friends and colleagues Robert Hormes and Steffen Keinert for their exceptionally generous financial support. Without them the project would have remained a dream.

My thanks also go to the EcoSUN team of Prof. Konrad Soyez from Potsdam University and Barbara Mohren (MMST Architekten Berlin), who supported the teaching modules at our university with their experience and expertise.

Thanks to all Joe Slovo residents involved in the project, especially Mama Hilda, for their confidence in creativity and reliability of "the Germans", as well as for their great hospitality, making us feel at home in Joe Slovo West.

Last but not at all least – my deepest thanks go to all students, regardless of which origin, who have participated in the project with unlimited curiosity, enormous commitment and great team spirit, as well as to those contributing at this very moment and in the future. Their optimism and pursuit of more social justice are a source of hope, here and especially on the less privileged side of the world.

Silke Flaßnöcker, April 2017

THE "ECOSUN" - PROJECT

In close and direct interaction with the collaborative project "EcoSUN Sustainable Village", supported by the German Federal Ministry of Education and Research (BMBF) within their CLIENT program, an academic research project has been initiated at the Faculty of Architecture and Design of Wismar University of Applied Sciences, directed by Prof. Flaßnöcker. Having started in winter semester 2015/16, research funding for the project was secured by Wismar University in 2016.

Initially and as a basis for further modules, the relevant sociological, economic and political conditions in South Africa were investigated, as well as theoretical and planning principles of the current housing practice in the country.

Central to an initial urban analysis was the attendance to public and semi-public space, with historical continuity largely neglected in the context of South African townships. The participating architectural students subsequently developed urban pre-design concepts for different exemplary sites.

Within a subsequent design project, urban and architectural solutions were developed for a specific site. According to the current status of the EcoSUN project at the time, a location near the historic city of Graaf-Reinet (Eastern Cape Province) was selected for this exercise.

With reference to the historical and sociocultural context of the population, the urban design of the new settlement and the architectural design within were developed by the students, comprising residential houses and a multifunctional building. African building traditions, the availability of regional


Photo: A. Saß


Photo: E. Boger


Photo: J. Delissen

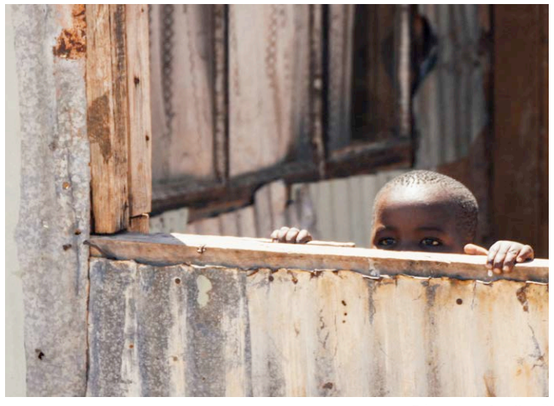
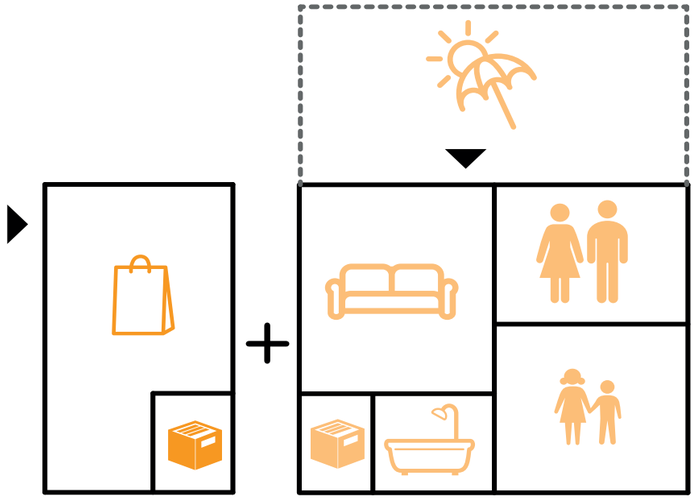


Photo: A. Saß


Photo: A. Saß


Photo: A. Saß

Original Site for EcoSUN-Project, Graaf-Reinet *Swenja Püschel*



Optional Use of RDP-Extension *Swenja Püschel*

Student Design of Multi-Purpose Centre, Graaf Reinet *Swenja Püschel*

and ecological building materials as well as potential individual user requirements, specifically including typical economics of micro-entrepreneurship, had to be taken into account.

A special focus of the project´s architectural design work was to explore potential extensibility of residential houses, currently built in a high number within the South African housing program, thus providing options to modify the largely uniform residential house type according to individual requirements.

In co-operation with specialists of the EcoSUN team, students also developed different concepts for placement and display of building plant as part of the envisaged sustainable technologies (for example grey water recycling, biogas and solar energy) in a so-called Multi-Purpose Centre.

Within an elective interdisciplinary module, extensions to individual houses for selected beneficiaries were finally developed during winter semester 2016/17.

Means of coordination with partners, skakeholders and local residents have been essential aspects of the practical teaching concept. Sharing specialized knowledge in the field of construction, in particular ”green” technologies, the feasibility of practical implementation within a very different sociocultural context has been of high importance.

THE "JOE SLOVO WEST COMMUNITY PROJECT"

Due to common goals with the "Joe Slovo West Community Project", already successfully established by Kevin Kimwelle on behalf of Indalo World, this township in close proximity to the city of Port Elizabeth was selected for the implementation of the design by Wismar University students.

The settlement is a so-called "township in transition", in which informal structures (usually shacks) are gradually being replaced replaced by formal, so-called "Mandela"-houses, financed by National Government funds as part of their "Reconstruction and Development Plan" (RDP). Joe Slovo West is therefore typical for a large number of South African townships, and has proved suitable to serve as a demonstration unit and reference project.

In Joe Slovo West, the development of a "Community Centre" as an urban intervention had already been launched. Within this project, a public square will be framed by surrounding community buildings, providing a previously unknown quality of public space and facilities in townships. One of the four buildings of the Community Centre, currently used as a crèche, was implemented by the initiators in cooperation with non-governmental organizations as early as 2015/16.

The project of Wismar University has taken advantage of guiding structures already established in Joe Slovo West in order to achieve public participation, general agreements and binding decisions in a manageable period of time, seaking the required buy-in of all relevant stakeholders.

In order to ensure the required decision-making process within the project, our project partner Kevin Kimwelle has established and appointed a "Stakeholder Committee". The committee consists of high-level representatives of Nelson Mandela Bay Municipality (NMBM), the Department of Planning, of the local community and churches, representatives of Nelson Mandela Metropolitan University (NMMU) as well as a professional team of consultants, also supporting our student project on a voluntary basis.

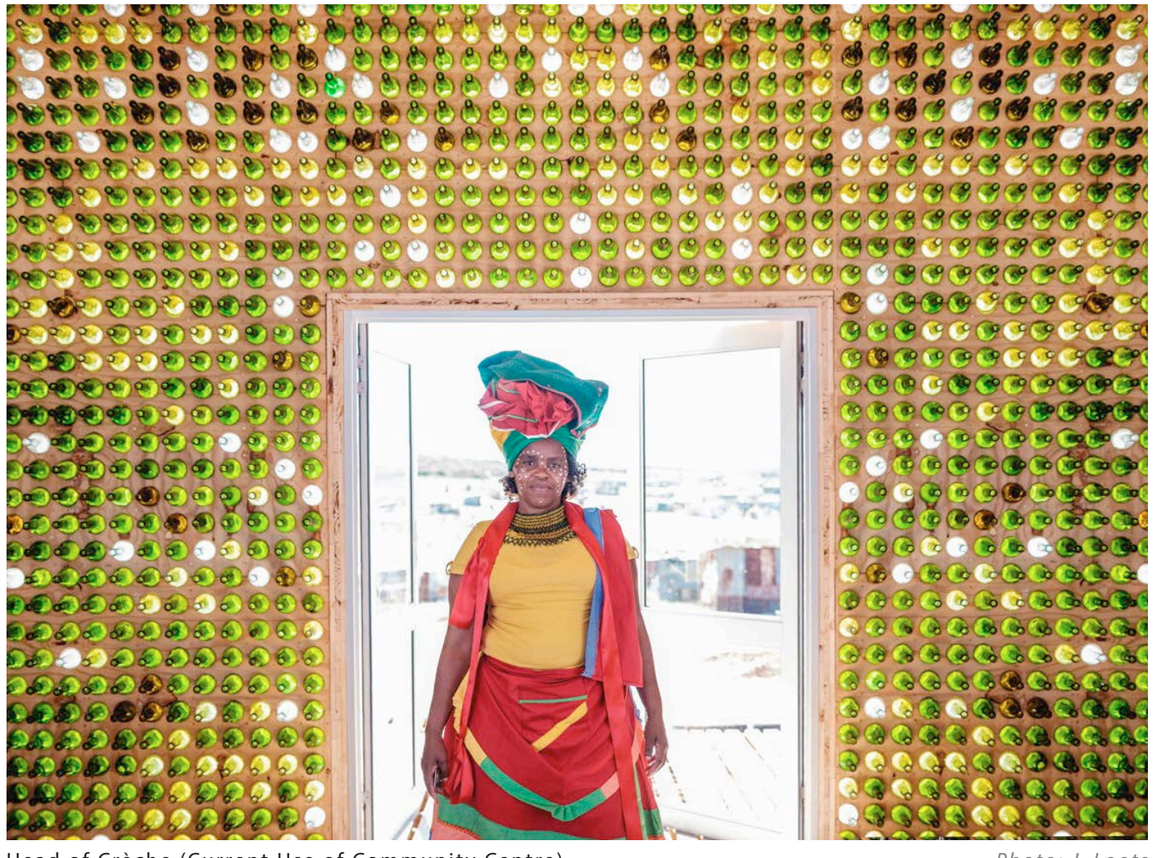
Due to this partnership with the local team, the completion and continuation of our university´s project activities can be secured. Particularly in the sensitive field of human settlements in the underprivileged society of South Africa, these structures are regarded as a necessary precondition for the success of such project.

This self-built project in Joe Slovo West provides an example of how township owners can extent their home according to their own needs, by requirement and capacities, as a source of income generation. By creating or expanding business activities the newly created space provides options for making a living.

Providing creative ideas for extensions of the small residential buildings, using simple construction methods and locally available resources (including recycled materials), the project encourages self-initiatives, thus challenging still existing structures of dependency and inactivity.

The approach can be applied to other townships and communities, promoting more vivid urban structures and streetscapes, thus strengthening the social cohesion within a community and the identification with "their" living environment.

New Community Centre, Joe Slovo West *Foto: K. Kimwelle*



Head of Crèche (Current Use of Community Centre) *Photo: J. Loots*

International Student Team

Photo: A. Saß

THE STUDENT SELF-BUILT PROJECT

This brochure documents the two-week student self-built project, which took place in the township Joe Slovo West near Port Elizabeth in February 2017.

Within this practical workshop, the implementation of one of the concepts for extension, developed in Wismar, was achieved. In addition to 17 Wismar students of various faculties, a varying number of South African students participated in the cross-national project.

The Nelson Mandela Metropolitan University (NMMU) based in Port Elizabeth has been continuously involved in the project. The NMMU provides scientific support by academic staff and active participation by selected students.

Equally cooperative, helpful and impressively unbureaucratic, staff members and students of the local "PE College" have also committed themselves to the project. The academic concept of the "TVET" College (Technical and Vocational Education and Training) focuses not only on imparting theoretical and practical skills, but also on the social interaction with township communities, which most of their students call home.

The projects´s objective for Social Change is consistently supported by the management of PE College, appreciating its sustainable approach for being of immense importance.

Students from German and South African universities were able to test their concepts for feasibility, but also in dialogue with each other, with local planning partners and craftsmen as well as township beneficiaries involved.

The objectives of the project were mediated by discussions and joint activities with students and residents.

The implementation of further business units by local teams is intended. Students from Wismar University currently provide support to the local team through design work witin their elective modules.

A continuation of project activities based on this partnership is the declared objective.

DOCUMENTATION AND FILM

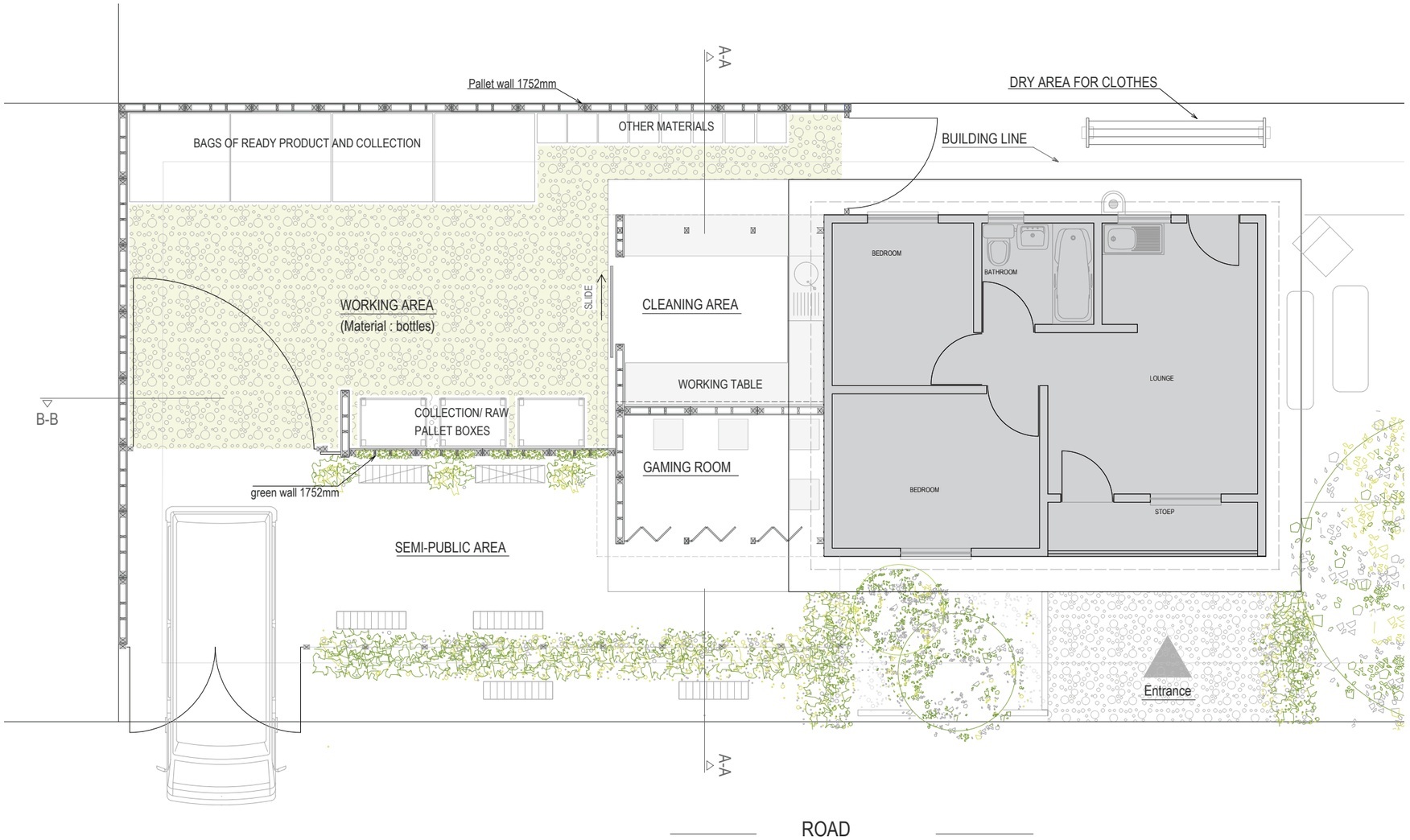
Supported by the Department of Research and Innovation as well as the Förderkreis of Wismar University, project presentations and exhibitions have been initiated (in Port Elizabeth and Wismar) in order to raise a broader audience´s attention, and by doing so particularly highlighting the social significance of the project.

Beyond these activities a cinematographic documentation is planned, displaying project activities beyond local level, thus promoting a continuation of the required financial support. Two students of the Communication and Media Design course joint the self-constructing team for this purpose. Currently processing the material as part of their course work, they are supported by Prof. Jochen Wisotzki of Wismar University. A completion of the movie is scheduled for July 2017, for presentation launch during the annual exhibition "DIA" of the Faculty of Architecture and Design.

The project initiators are very much looking forward to an active dialogue with all interested parties and supporters!

„Inspection" of Film Equipment

Photo: E. Boger



Site Plan of Projected Extension, Design Status January 2017

Group: Anais Bukola Djondo, Milena Stolzenburg, Nasim Jafarbeglou

PHASES OF IMPLEMENTATION

1. Design

The design of the extensions to the so-called "Mandela" houses, currently executed in a large number, took place in the context of interdisciplinary project work at the Faculty of Architecture and Design of Wismar University, in close coordination with planning partners on site.

Within this programme, individual requirements of a selected township resident have been carefully analyzed and implemented in a customized concept of a module compiling of recycled industrial pallets. The new business unit will provide space for a small recycling company as well as gaming opportunities for children.

Unlike originally planned, the construction of the extension was executed before the actual residential house was constructed, causing initial planning adjustments.

Student Workshop with Kevin Kimwelle, Wismar University, November 2016

Photos: M. Fuchs

Photo: J. Delissen

Photo: J. Delissen

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Photo: J. Delissen

2. Modification of Design

Due to an inevitable change of the originally envisaged pallet type, modifications of the module´s design had to be carried out by students, prior to the prefabrication process.

Based on professional advice by local structural engineer André Malherbe, quantity surveys for building materials were carried out subsequently. Parallel to this process, tools and materials for the prototypes were acquired.

3. Prototyping

The production of prototypes, such as columns, walls and furnishing elements, took place in close coordination with the student design team on the property of the students´ accommodation in Port Elizabeth, allowing a collective check of the chosen geometry and selected fittings, followed by minor corrections.

4. Foundations

Parallel to the pre-assembly of prototypes, the production of the strip foundations was carried out on site in two working days by a student team.

The formwork elements were connected, levelled out on the slightly sloping terrain and subsequently equipped with steel reinforcement according to structural requirements, just in time for the arrival of the ready-mixed concrete.

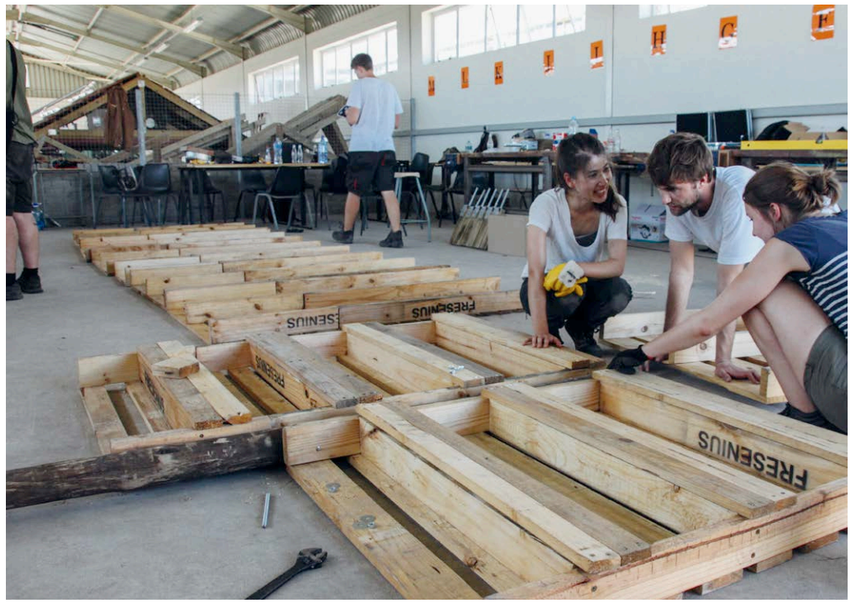
Stripping, filling and disposal of formwork elements were executed the following day.

Setting up of Trenches for Strip Foundation *Photo: A. Saß*

Pouring of Concrete *Photo: A. Saß*

Exhausted - but happy! *Photo: J. Delissen*

Stripping of Formwork and Backfilling *Photo: A. Saß*



„Mass Production“, PE College Workshop *Photo: A. Saß*

Base Fittings of Triple-Columns *Photo: E. Boger*

Prototype of Shelf Unit *Photo: E. Boger*

5. **Production**

For the „mass production“ of building elements, workshops of the local PE College were made available through previous facilitating by Kevin Kimwelle. The team also received valuable technical advice and support from teachers and students of PE College.

With the intention to keep the extent of works on site limited, thus reducing the potentially negative influence of local restrictions – scarce electricity, safety aspects as well as weather implications – quick progress could be achieved.

6. Transport

For transport of the prefabricated modules to the township´s construction site, a truck was made available to the team as part of the project´s sponsoring programme.

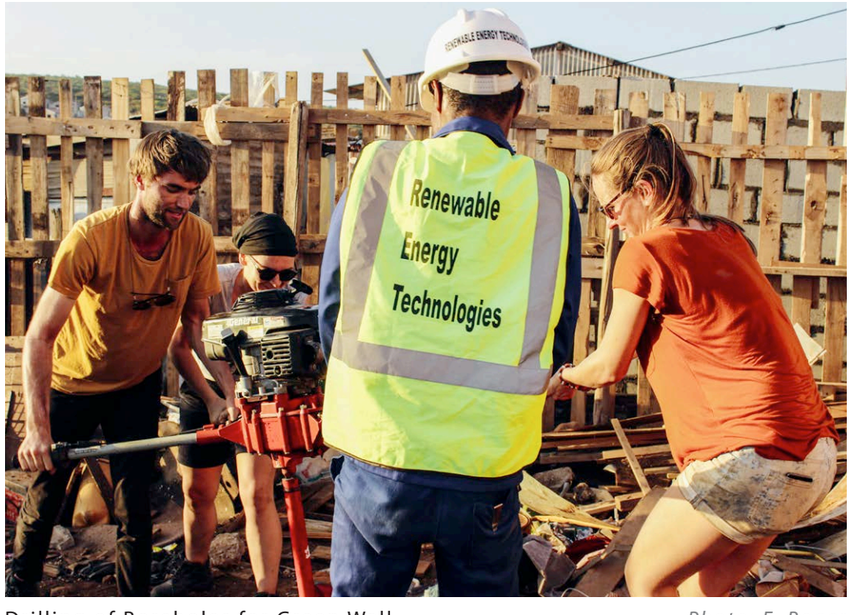
7. Assembly

The galvanized "shoe" supports of the prefabricated modules were anchored in the strip foundations by means of boreholes filled with epoxy adhesives.

Columns of the „Green Wall", consisting of gum tree poles, were inserted into the cohesive soil after drilling the required holes by means of an auger. The elements were secured by compaction after alignment.

All prefabricated modules were connected by means of bolts (cut-to-length threaded rods) with washers and nuts, as well as screws on site.

Uploading of Truck *Photo: E. Boger*



Drilling of Boreholes for Green Wall *Photo: E. Boger*

Assembly and Fixing of Shelf Units *Photo: J. Delissen*

Assembly of A-Frames *Photo: E. Boger*

Levelling of A-Frames *Photo: A. Saß*

Placement of Purlins and Bracings *Photo: A. Saß*

Assembly of Metal Roof Sheeting *Photo: E. Boger*

8. Roof

The binding rafters of the roof ("A-Frames") were produced and assembled by staff and students of PE College in their workshop, subsequently erected and aligned on site with their participation. After inserting the purlins and bracing diagonals, the roof structure was finally covered with corrugated iron sheeting.

9. "Green Wall" and partition with seats

The partition wall adjacent to the business unit, equipped with plants, marks the boundary between public and private space on the owner´s premises. Together with the pallet wall bordering the road, it creates a pleasant waiting area for visitors of the business unit.

After a spontaneous collection by children in the township, planters were formed by plastic bottles cut in half, subsequently equipped with succulents adapted to the local climate.

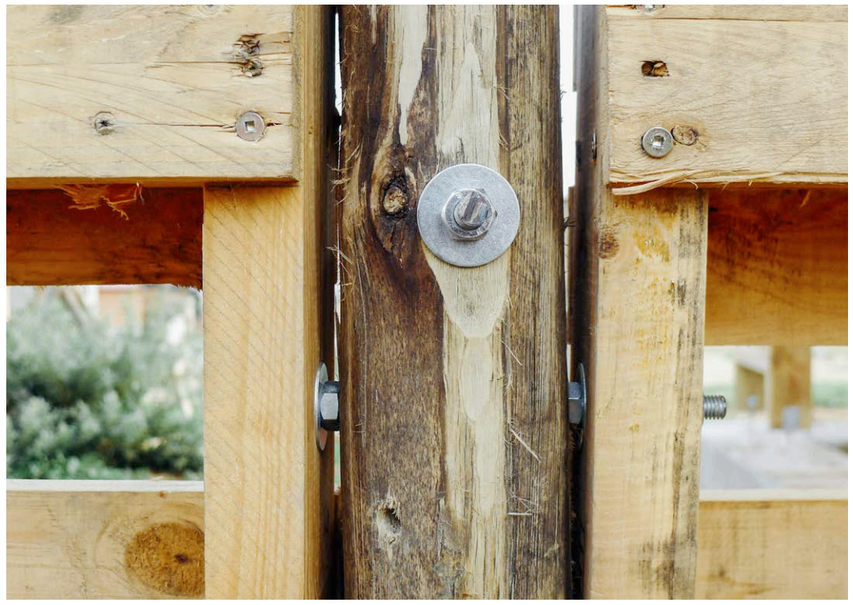
The new seating area thus created was "taken over" by local township children even before completion.

Planting of Succulents in Green Wall *Photo: A. Saß*

Completed Extension *Photo: S. Flaßnöcker*

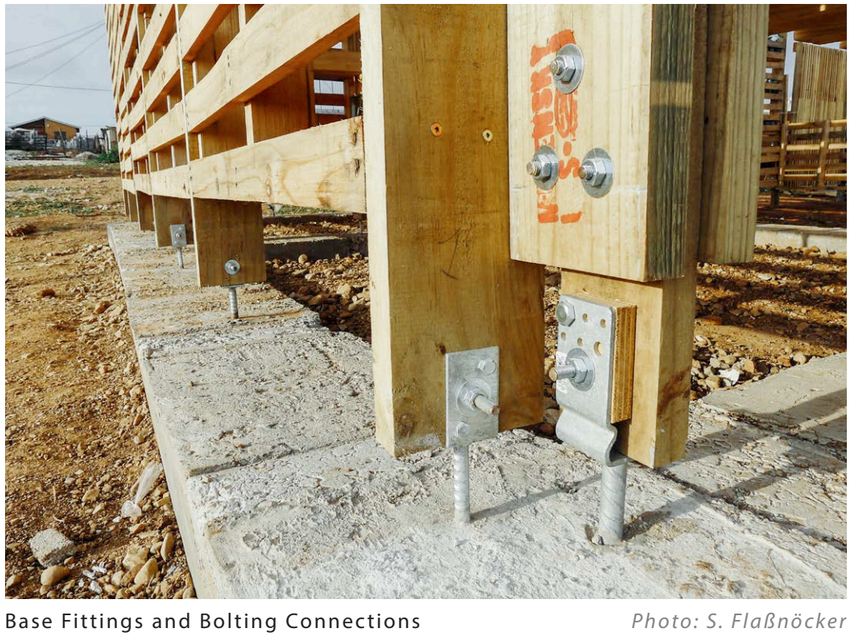
Seating Arrangement *Photo: S. Flaßnöcker*

Users of newly created Space *Photo: A. Saß*



Fixing Detail of Partition Wall *Photo: S. Flaßnöcker*

Detail of Roof Construction *Photo: S. Flaßnöcker*



Base Fittings and Bolting Connections *Photo: S. Flaßnöcker*

Shelf Units *Photo: S. Flaßnöcker*

10. Construction in detail

The selected wall construction is formed by an integrated system, using recycled industrial pallets together with structural timber members for the wall panels. By preventing potential buckling of the slim timber profiles, further bracing could be avoided by the rigid connection of pallets and posts.

For the stand-alone vertical supports three standard, slim timber members were bolted together to form "triple-columns". The resulting fork-shaped supports facilitated the roof assembly by providing a secure temporary support and the necessary allowance for tolerance prior to final tightening of the bolts.

11. Completion

The project was presented to the local structural engineer André Malherbe and achieved final approval in all structural matters.

The building was then presented and handed over to proud owner "Mama Hilda" Ndaba. Hilda's bright smile does not require further explanation..

„Handing Over" to Client

Photo: S. Flaßnöcker

Hilda, much respected - and loved.

Photo: S. Flaßnöcker

PROSPECTS AND FURTHER ACTION

The projected business units for the carpenter Joshua Pumzile as well as for Thembakazi "Thembi" Thelma, operating a small "Spaza Shop" in the township, thus making a living for her and her two children, are in the phase of design for execution. The implementation of the carpentry workshop is currently being undertaken by a team of PE College students, supported by the local community, under the guidance of Kevin Kimwelle and his team. All residents participating in the project have qualified to do so by taking part in business-oriented training programs run by the so-called "Hope Factory", a Port Elizabeth-based non-profit organization specialized in small-scale township entrepreneurship. The beneficiaries, provided with individual training and support, are thus prepared to develop their business with a potential for also training others. Other current design and construction tasks are additional public buildings within the "Community Centre" of Joe Slovo West, as established by Kevin Kimwelle, such as a School for Special Needs, a Frail Care Centre and a Community School. They are currently being planned by Wismar students as part of the ongoing practical modules, in close cooperation with the South African partners. Subsequently those projects will be carried out by local teams. The involvement of community members of Joe Slovo West takes shape through comprehensive information and "public participation" by Kevin Kimwelle and his team. Inspired by the project, the local partner universities are currently establishing methods to integrate practical building activities into their curriculum, thus taking the idea an important step further.

The project´s objective to provide help for people to help themselves, starting by giving positive examples for self-initiatives, gradually appears more and more achievable.

Joshua Pumzile, Carpenter *Photo: J. Delissen*

Thembakazi „Thembi" Thelma, Owner of Spaza-Shop *Photo: S. Flaßnöcker*

Warm Welcome and Presentation at PE College *Photo: PE College*

Community Work in Joe Slovo West *Photo: K. Kimwelle*

APPENDIX

Team at the beach of Sardinia Bay *Photo: L. Franck*

Excursion to Addo Elephant National Park *Photo: E. Boger*

Visit to World Cup Stadium, Port Elizabeth

Saturday Night in the Township, in Expectation of the first Drink...

TO BE CONTINUED...