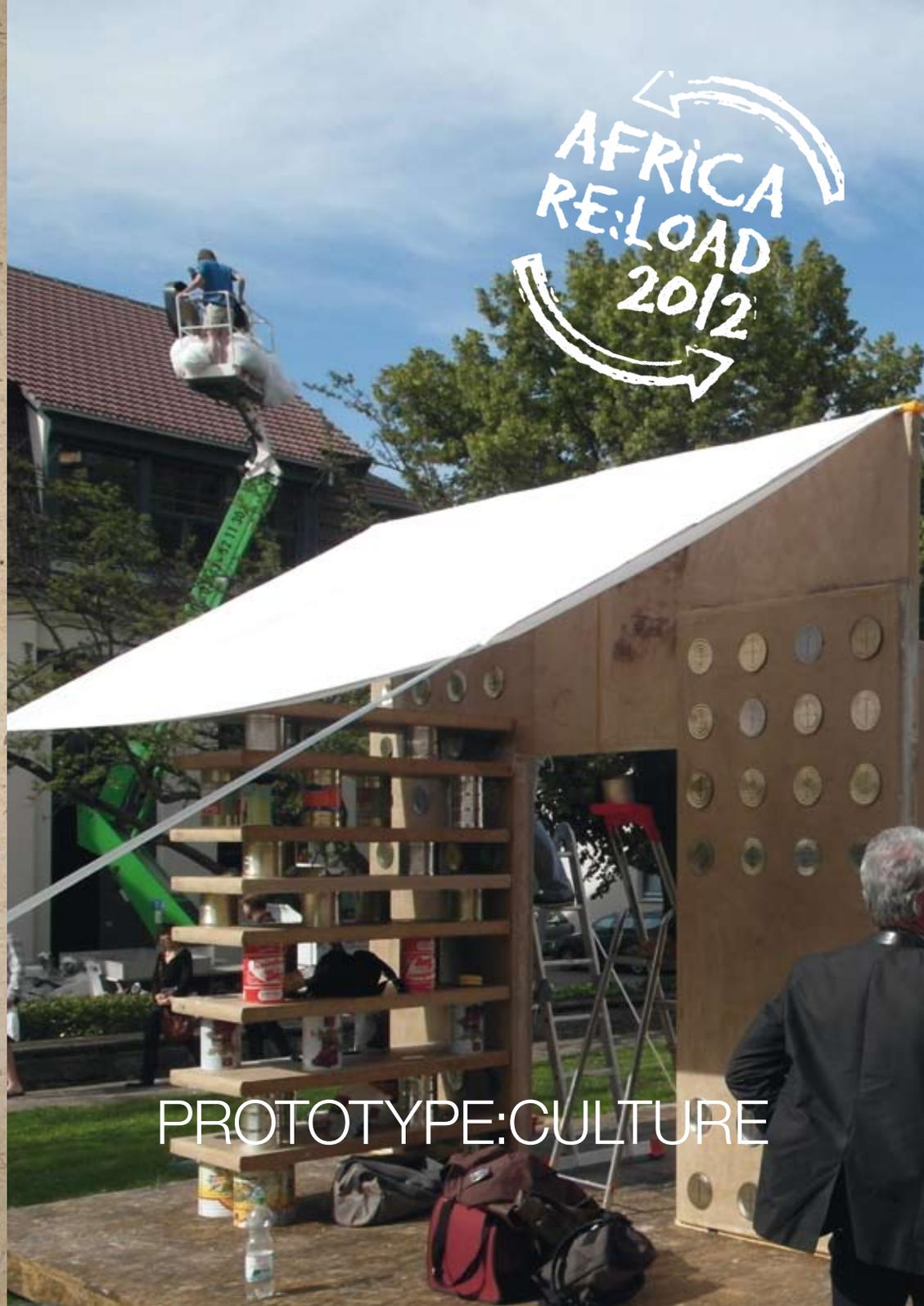




Documentation of the annual
icebauhaus convention
July 13-14 2012 in Weimar, Germany



AFRICA
RE:LOAD
2012

PROTOTYPE:CULTURE



AFRICA RE:LOAD 2012

JÖRN SCHULTZ

While economies of the global North are in stagnation, those of the South thrive, causing the African brain drain to gradually turn into cycles of going and returning between home and away. Post-revolution North African societies explore new ways forward, the development of decentralised renewable energy sources is starting to change global power structures, open web-based platforms level out access to education and new affordable tools of digital fabrication are predicted to democratise the manufacturing sector.

In the last few years, we have seen examples of technological innovations, germinated within local contexts in Africa, rapidly spread and find adaptation across the world, placing a clear focus on Africa as the next market for start-up investment. Thanks to increased connectivity, affordable smart mobile devices and social web-tools, young students and professionals are becoming interconnected beyond physical borders and societal hierarchies, communicating and working in scattered teams and networks across disci-

plines and sectors. This rapidly progressing globalisation opens up a wide spectrum of opportunities but also requires the creation and exploration of new types of innovation infrastructure and working methods, a challenge taken up by the ever-expanding icehubs network with icebauhaus as its German node.

A year has passed since the first africa re:load gathering in Weimar in August 2011 and icebauhaus has since completed its initial experimental and explorative phase. A variety of networking workshops were held, international research projects were conceived and brought to implementation, the icehubs organised a tri-national green architecture innovation award, and a number of students, researchers and practitioners have started moving between Germany and Africa, learning, exchanging ideas and developing projects. icebauhaus now graduates into the next phase as a registered association, developing its long-term strategy in coordination with its main partner: Bauhaus University Weimar.

Against this background, we aim to develop africa re:load as an annual mini-convention/camp for the icehubs community and wider network. An informal, participatory and friendly setting in which to meet other inspiring persons, get updated on relevant innovative products, prototypes and concepts, to brainstorm new partnerships and projects and to regenerate intellectually outside of the everyday working context by contrasting & mixing – africa:europe, academia:industry, innovation:business, local:global.

The “semi-open” format we chose for africa re:load 2012 proved effective in both leaving room for a diverse range of participants and topics while also focusing on networking and learning through the opportunity of pre-engagement. Anyone could register his/her attendance and post session topics into a fixed web-based Wiki timetable. The emerging mix of topics was then gradually clustered into sessions and group sessions, resulting in the four overarching themes: “Green Energy”, “Green Construction”, “De-

sign & Communication” and “Networking Entrepreneurs”. The same online platform was used throughout the process for updates and as the collaborative space for session documentation and subsequent reflection.

This year’s motto, “prototype:culture”, symbolises the “maker” / “DIY” subculture, i.e. the practice of developing ideas yourself via rapid prototyping, tinkering and experimentation, factors which are both key to the icehubs philosophy and at the core of the classic Bauhaus movement. It also refers to how we now collaboratively shape our globalised culture through the process of “bricolage”, i.e., by continuously creating cultural objects, ideas and values by re-mixing what is at hand. africa re:load 2012 was in a sense an experimental prototype of future re:loads in which you are invited to participate.

ice stands for “Innovation – Collaboration – Entrepreneurship”





THE NEXUS BETWEEN MIGRATION AND INNOVATION

STEPHANIE DEUBLER AND KOKEBE HAILE GABRIEL



The contributions of migrants to fostering the economic development of their country of origin are very diverse. Capital transfers via remittances are by no means the only way the diaspora engages. Through direct investments, business start-ups and knowledge and technology transfers, migrants help to create new jobs, generate income, introduce new methodologies and hence contribute to poverty alleviation and economic development.

Due to their intercultural competence, problem-solving abilities, specific knowledge about business customs, markets and products in their country of origin as well as in the country of destination, and often also their distinctive know-how in development project management, migrants are undoubtedly a very valuable resource for both development cooperation and the business sector. The huge potential of international mobility in the context of transfer of know-how and technology for the promotion of innovation in countries of origin is increasingly acknowledged in the international discussion.

Consequently, the Centre for International Migration and Development (CIM) – a joint operation of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the German Federal Labour Office – recognises the need to tap into the potential offered by the diaspora and returnees, as well as networks such as icebauhaus that are engaged in innovation promotion.

Thanks to the cooperation with icebauhaus, CIM has gained access to the German node of a growing innovation network which has invested in “the stimulation of research and development, as well as the local private sector in Africa’s low-income markets in order to improve the livelihood of low-income people.”

The first africa re:load workshop in Weimar, Germany in August 2011 was the first concerted effort to address members of the Ethiopian diaspora in Germany who are engaged in innovative ventures and projects. While CIM has come into close contact with innova-

tors from the private and public sectors, icebauhaus has expanded to include ever more members of the CIM diaspora network in Germany in their activities. It became clear that CIM’s comprehensive range of programs involving diaspora entrepreneurs and returnees, together with icebauhaus, facilitates a strong engagement in the promotion of innovation in the country of origin by the diaspora. Subsequently, the africa re:load 2012 presented projects from Egypt and Ethiopia that demonstrate how CIM’s engagement with the diaspora contributes to innovation promotion in the countries of origin.

Hana Dahy is a prime example of how engagement with the diaspora can contribute to the promotion of innovation in the country of origin. During her PhD studies at the University of Stuttgart, the young Egyptian developed building materials based on bio-waste. The material is produced without any chemical treatment while containing a high percentage of waste. In cooperation with CIM, she plans to establish a small-scale in-

dustrial workshop together with the university of Stuttgart and a partner University in Egypt. The project is destined to contribute to both the transfer of technology and scientific research, as well as introduce a new sustainable product to the Egyptian construction market.

Lulit Mekonnen, a returnee from Germany after having successfully completed her MBA, is another impressive example in this context. During her stay in Germany, the young woman developed the project idea “fahrrad” which aims at introducing a bicycle trailer to the Ethiopian rural context. Through consultations with CIM Migration and Diaspora, the project idea, that at first planned the import of trailers from China, was geared towards the principle of only using locally available materials and, in order to foster innovation promotion at Ethiopian universities, to include students in the design, prototyping and testing phases of the product. “fahrrad” aims at addressing gender disparities in Ethiopian rural areas by increa-



sing the mobility and market access of women and thereby contributing to the generation of income and poverty reduction. Lulit is also a member of the iceaddis network and aims at establishing a start-up business based on this project idea which will also benefit women in rural areas, not only as beneficiaries but also by involving them as distributors and assemblers of the product.

CIM's role in this context was presented by Florian Manderscheid, CIM Integrated Expert, at the ProtoLAB of the Ethiopian Institute of Architecture and Building Construction (EiABC). The ProtoLab simulates, promotes and involves participatory design and production at the EiABC. The prototype of the bamboo bicycle trailer is currently being developed by ProtoLAB and students from EiABC as a student project. CIM not only offers institutional support by placing integrated and returning experts in relevant institutions but also links returning innovators with institutions and gives advice regarding concept development and implementation.

Under the motto "capacity building for market building | social entrepreneurship", Sahay Solar Solutions – a social business, based in Offenbach am Main, Germany – presented an example that aims at the promotion of solar energy in rural areas of Ethiopia. Sahay Solar Solutions consists both of a non-profit association as well as a profit-oriented PLC. The non-profit association, mainly consisting of members of Ethiopian origin, focuses on technology transfer whereas the profit-oriented PLC aims at distributing solar technologies in the rural areas.

The Sahay Solar Solutions association submitted a proposal to CIM as a migrant organisation aimed at realising the further development of a Solar Competence Center (SCC) at Arba Minch University together with partners in Germany, Ethiopia and Switzerland. The SCC will offer testing of solar equipment and technical training for the installation and maintenance of the equipment and also aims at raising awareness about the potential of solar energy. The overall objective is



to contribute to building a market for solar technologies in Ethiopia by improving and spreading the relevant technologies and at the same time training local specialists in this field, which will ultimately benefit Sahay Solar PIC and other solar enterprises.

The Africa re:load 2012 workshop was also the decisive moment for Amanuel Abirha and Eskinder Mammo to establish an association for information and communication technology ("Informations- und Kommunikationstechnologie für Afrika e.V."), which will bundle innovations in this field of members of the African diaspora in Germany for the promotion of ICT in the respective countries of origin.

The first project will involve the development of a mobile learning app and will be realised in close cooperation with CIM iceaddis, the sister hub of icebauhaus. Where "talk and chalk" is the predominant instruction mode in schools, the application will offer mobile learning to high-school students for the

subjects mathematics and English in an attractive manner. As mobiles are highly popular among high-school students and easily available, students can study wherever they go using the app that also offers attractive features which are intended to promote playful learning. The application will be available both for smartphones as well as an sms-based version for simple phones, but most importantly as a native application in the Amharic language.

All these examples demonstrate how development cooperation can actively support migrants and returnees in contributing to the promotion of innovation in their countries of origin by fostering know-how and technology transfer in a sustainable manner. In order to ensure continuous action in this field, the CIM Migration and Diaspora Program in Ethiopia has adopted the theme "Innovation through Migration" for the 2nd Ethio-German Konnect 2012 conference.



AFRICA RE:LOAD 2012

PROGRAMME

This year's event was revolved around the issues of creative industries, maker culture, design communities and innovative financial solutions as well as green construction and renewable energies. As we explore new ways of cooperating, learning and experimenting, we set out to establish and deepen strategic part-

nerships aimed at promoting investment, research and education in Africa. At this year's event, you had the opportunity to meet a great variety of entrepreneurs, innovators, researchers, along with investors from Egypt, Ethiopia and Germany, as well as representatives of the international development community.

GREEN ENERGY SESSIONS

- Claudia Knobloch:
"Market Research for HERi Solarkiosk Project in Madagascar"
- Phillip Travers:
"Productive Use of Solar Systems – A Promising Way to Stimulate Business"
- Max Pohl & Guluma Megersa:
"Experiences from Sahay Solar Competence Center in Southern Ethiopia"
- Xavier Auclair (via Skype):
"Solar-Powered Irrigation in Egypt"
- Christopher Doering:
"Visualising Energy Consumption"
- Heiko Bartels:
"Decentralised Wind and Water Energy Solutions"
- Christian Bauriedel & Team Cairo:
"Slide-s, Egypt's Solar Decathlon Entry"

GREEN CONSTRUCTION SESSIONS

- Dirk Donath:
"Low-Cost Housing with Sustainable Local Materials"
- Bernd Rudolf & Team Bauhaus:
"Networking Africa"
- Eckardt Dauck:
"Strawboard Technology"
- Gyavira Wani:
"Local Construction Materials in South-Sudan"
- Adam Molyneux-Berry:
"Urban Gardening & Demonstration Centre for Egyptian Appropriate Tech, and Sustainability Practices"
- Hany A. Abo El Wafa:
"Urban Growth Modelling in Addis Ababa"
- Katja Fischer & Tobias Haag:
"Africa & Thuringia: Shared Challenges? ice & IBA Thüringen"

DESIGN & COMMUNICATION SESSIONS

- Simon Höher:
knowable.org/International DIY Community
- Christof Mühe:
"Local Green Materials Catalogue"
- Daniel Scheidler, Tobias Mathes & Johannes Hetzold:
"Prototyping Bamboo Products"
- Guido Morgenthal:
"Bamboo-Concrete Composite Slabs"
- Naod Duga:
"Cloud-Computing in Ethiopia"
- Hagen Höpfner:
"Energy-Aware Software"
- Katrin Proschek:
"Cultural Factors in Mobile User Experience"
- Amanuel Abrha & Eskinder Mamo:
"Mobile Apps for Ethiopian Education"
- Mitslall Kifleyesus:
"Mobile App for Ethiopian Farmers Network: Mobile-Based Enterprise Resources Planning (ERP) and Web-Based Market Resources Planning (MRP)"
- Guido Morgenthal:
"Mobile App for Building Inspection and City Planning"
- Christiane Kilian:
"International Prototype-Seminar"

- Melat Assefa & Brook Teklehaimanot:
"Activities of the EiABC Protolab"
- Florian Manderscheid:
"Design Communication: Communicating the Utility of Design to Local Enterprises"
- Jay Cousins:
"From Open Design City to icecairo Maker Lab"
- Johannes Hafner:
"Building an *upcycling CNC*"

NETWORKING ENTREPRENEURS SESSION

- Kokebe Hailegabriel: "CIM Goes Green"
- Amanuel Abrha:
Mobile Apps Startup-Project
- Max Pohl & Guluma Mersha:
Solar Startup-Project
- Hanaa Dahy: Building Materials out of Bio-Waste Startup-Project
- Ben White:
"VC4Africa: Connecting African Entrepreneurs to Investors"
- Susanna Muschik:
"neudeli Incubator: Start-Up Support, the Bauhaus Way"
- Bill Zimmerman:
"The AfriLabs Network"
- Marton Kocsev:
"icehubs – Co-Working Spaces as Catalysts for Green Innovation"

CONNECTING MAKERS. WORLDWIDE.

SIMON HÖHER, knowable.org

SOLAR MARKETS – INSIGHTS FROM MADAGASCAR

CLAUDA KNOBLOCH, endeva



knowable.org is the first social network for makers. It's an online and web platform, providing simple step-by-step guides for low-tech designs, clever DIY-projects and nifty solutions on upcycling. knowable.org addresses the paradigm shift towards a culture of grass-roots production, open hardware and sustainable design – and the revolutionary potential of mobile technologies in emerging markets. It connects clever minds all around the world who set out on a shared quest: build amazing things together.

Desinfection of drinking water, using the sun!
SODIS (Solar Water Disinfection) is a simple low cost solution for water treatment at household level to improve the quality of drinking water. It is used worldwide by more than two million people.
<http://www.sodis.ch>



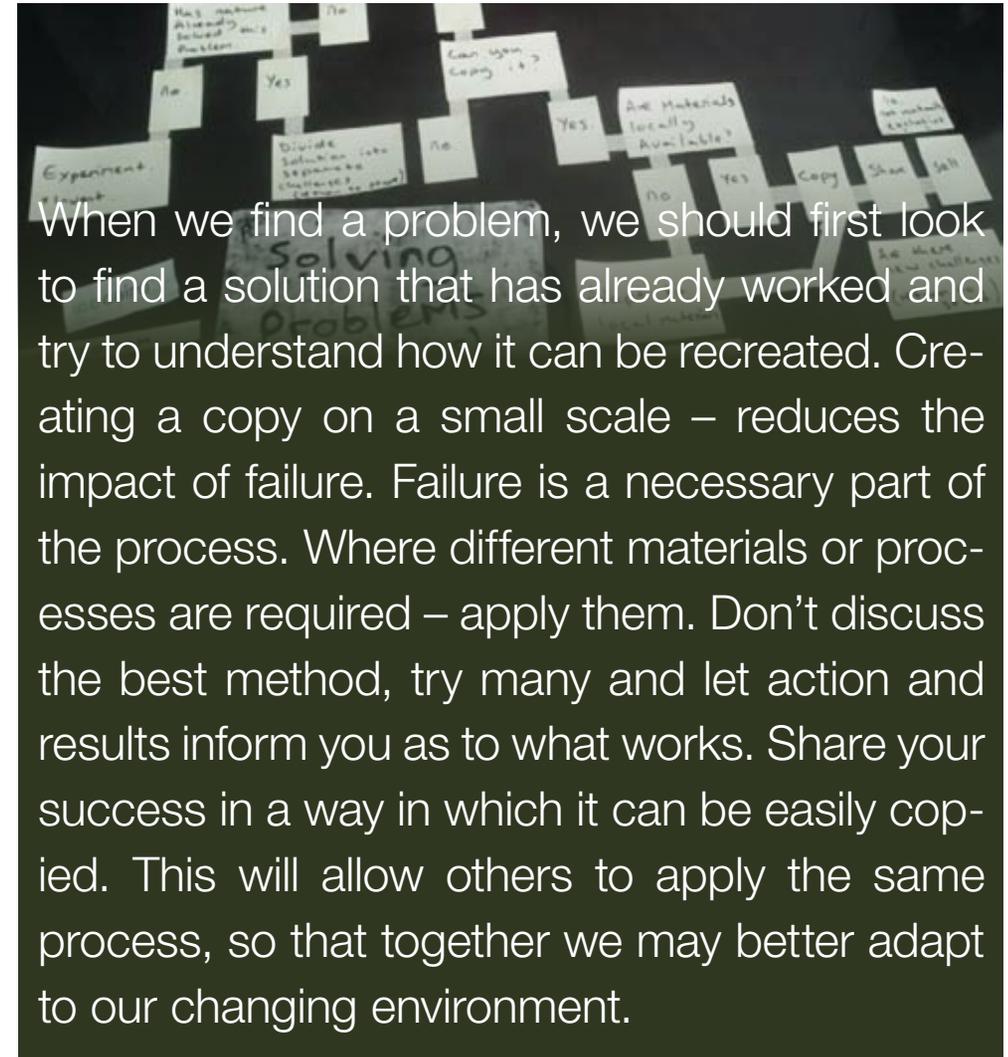
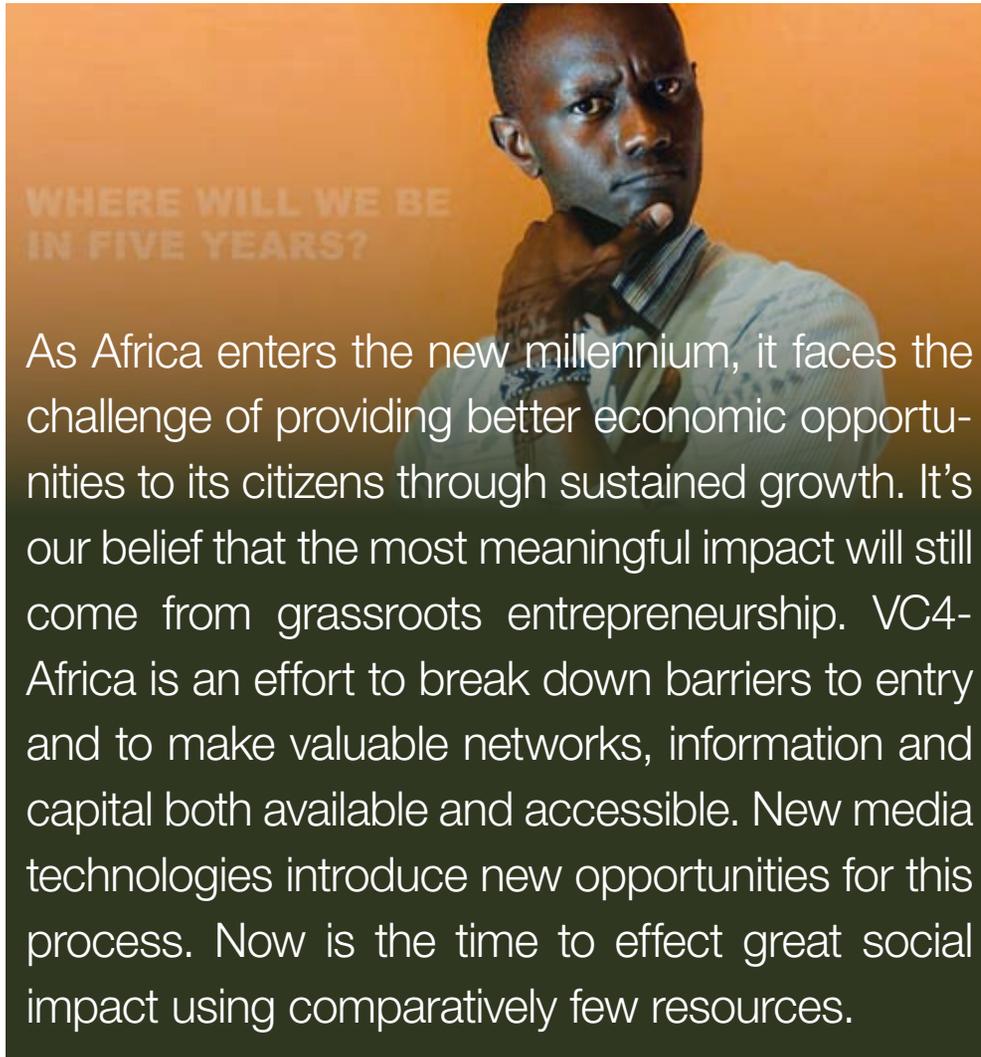
The social company HERi is setting up energy kiosks in Madagascar where people can charge their phones and batteries, access the Internet and information provided by NGOs. Before the start of HERi, the think tank Endeva examined the market for rural energy services in Madagascar. Interviews with energy providers and government representatives revealed the opportunities and challenges of the market. Participatory research identified the villagers' needs and their willingness to pay for energy.

CONNECTING AFRICAN ENTREPRENEURS TO INVESTORS

BEN WHITE, VC4Africa

OPEN INNOVATION – COPY, ADAPT, REPRODUCE

JAY COUSIN, icecairo



LOW-COST HOUSING WITH LOCAL MATERIALS IN AFRICA

PROF. DR. DIRK DONATH, EiABC



The EiABC runs a research project on innovative construction materials and techniques for emerging cities in Ethiopia. SECU (Sustainable Emerging City Unit) is an experimental project, introducing modular housing unit testing and cost-efficient implementation, addressing the high demand for housing in the country. The prototype proposal includes construction systems and building parts made out of modular dimensions and constructed from affordable and recyclable elements, as well as integrated design principles and criteria for social identification.

BENEFITS OF SOCIAL MEDIA FOR ACHIEVING DEVELOPMENT GOALS

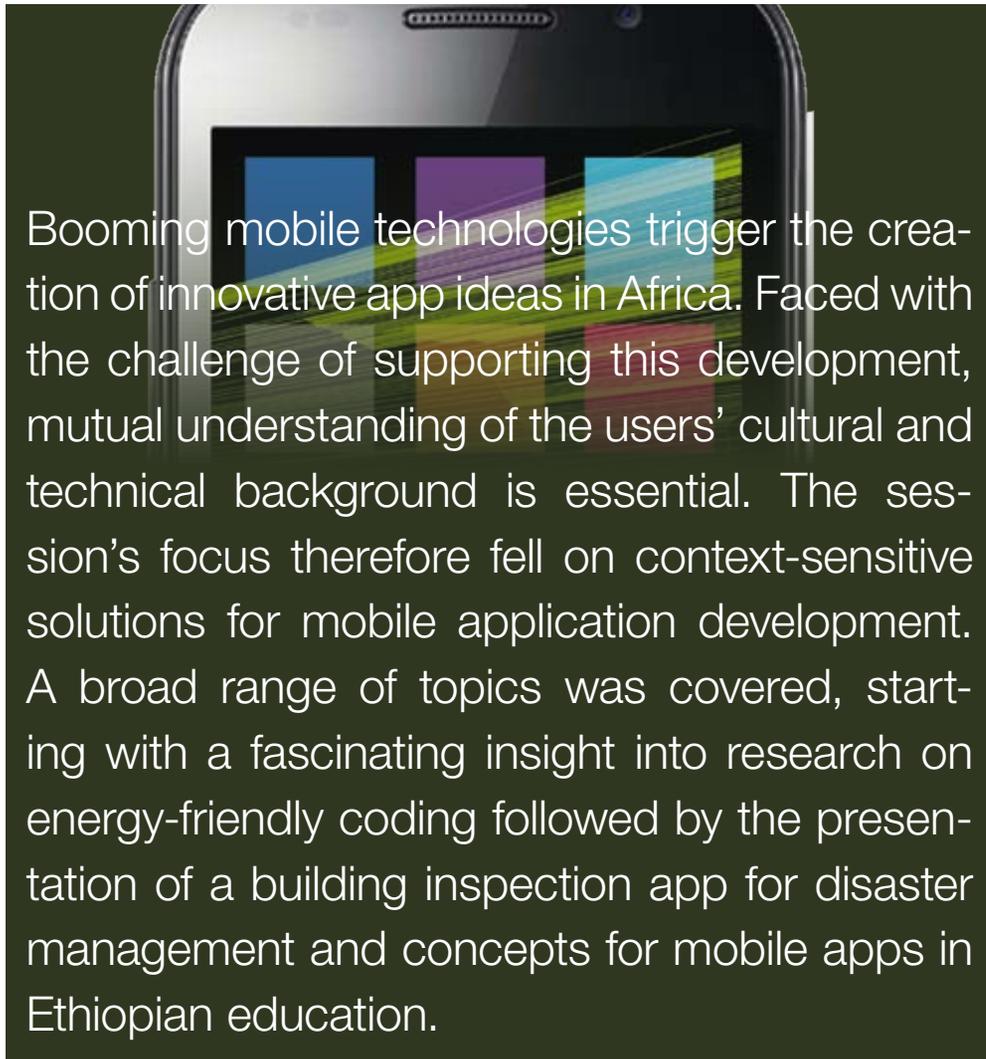
GERALDINE DE BASTION



Social media create new communication opportunities between people and organisations. Activists and non-governmental organisations demonstrate how social media can be used to mobilise and involve people in political and economic development. Donor organisations such as the World Bank are beginning to use open data and open licences to stimulate knowledge exchange. But this is just the beginning. Harnessing the opportunities of social media can help reinvent participatory development and help government development organisations to listen and learn.

CULTURAL FACTORS IN MOBILE USER EXPERIENCE

KATRIN PROSCHEK, Ohm University Nuremberg



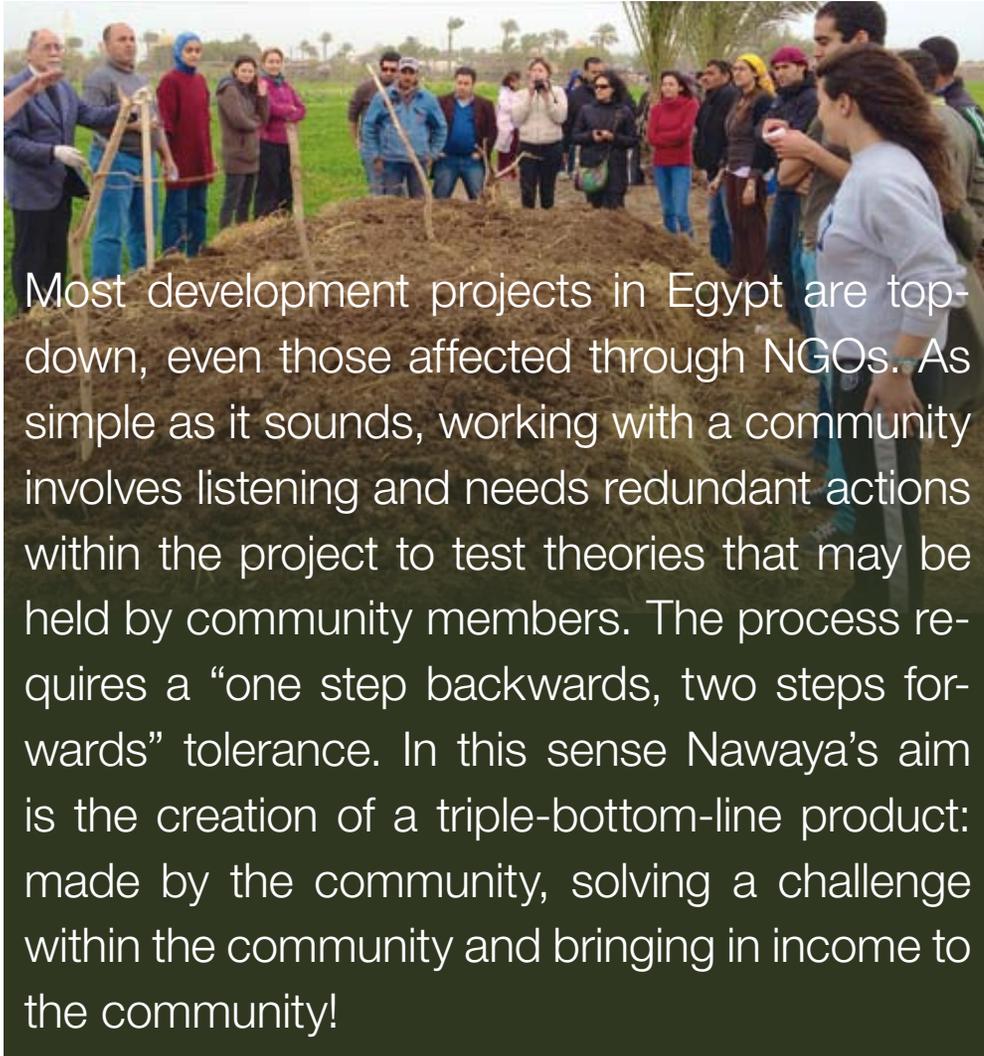
BAMBOO AS A LOW COST BUILDING MATERIAL

ASSOC. PROF. GYAVIRA TABAN-WANI, University of Juba



COMMUNITY INTEGRATION IN SUSTAINABLE PROJECTS

ADAM MOLYNEUX-BERRY, NAWAYA



Most development projects in Egypt are top-down, even those affected through NGOs. As simple as it sounds, working with a community involves listening and needs redundant actions within the project to test theories that may be held by community members. The process requires a “one step backwards, two steps forwards” tolerance. In this sense Nawaya’s aim is the creation of a triple-bottom-line product: made by the community, solving a challenge within the community and bringing in income to the community!

IMPRINT

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