BILL & MELINDA GATES foundation
DISCOVERY CENTER

For Immediate Release
Media Contact: Cara Egan/Gates Foundation - 206-240-2960
Laurie Bohlk/Cooper Hewitt – 212-849-8420

BILL & MELINDA GATES FOUNDATION DISCOVERY CENTER PRESENTS *DESIGN WITH THE 90%*

Exhibition highlights the important role that designers can play in addressing some of the world's most critical problems

September 13, 2018 – May 11, 2019

(JULY 23, 2018 – SEATTLE, WA) This September, the Bill & Melinda Gates Foundation Discovery Center will present *Design with the 90%*, an exhibition highlighting efforts of designers around the world to develop affordable and sustainable shelter, food, drinking water, sanitation, and health solutions for some of the world's most marginalized communities. On view September 13, 2018 through May 11, 2019, *Design with the 90%* was organized by Cooper Hewitt, Smithsonian Design Museum and features more than 25 projects that demonstrate how design can be a dynamic force for social change.

Curated by Cynthia E. Smith, Curator of Socially Responsible Design for Cooper Hewitt, the exhibition focuses on a broad survey of design solutions from around the world that address questions such as: ***How might design transform lives around the world? In what ways can design act as a catalyst for change? In what ways can design expand access? How can design include those who have been excluded?***

"We are thrilled to collaborate with Cooper Hewitt and bring this exhibition to the Gates Foundation Discovery Center to highlight the important role that design and innovative approaches can play in solving some of the world's most critical challenges that determine the quality of life for millions of people around the world," said Charlotte Beall, Deputy Director of the Gates Foundation Discovery Center. "In addition to highlighting the work of these 25 global projects, we will activate the Center with opportunities for our visitors to participate in design thinking challenges, and connect with designers here in the Pacific Northwest who are working to address issues facing our local community."

In 2007, Smith curated the first *Design for the Other 90%* exhibition at Cooper Hewitt, to bring a spotlight to the important role design could play in responding to pressing issues facing the world's poorest communities. It explored the critical global issue of extreme poverty and demonstrated how designers are developing solutions to meet the needs of under-served communities around the world. The exhibition was presented at Cooper Hewitt in New York and subsequently traveled throughout the U.S. and has since led to two more exhibitions, *Design with the Other 90%: Cities* and *By the People: Designing a Better America*.

This presentation of *Design with the 90%* at the Gates Foundation Discovery Center has been adapted and updated with new projects and new iterations of past designs with a focus on projects that were designed by and with communities. Many of the designers in the exhibition are from the country in which the project is most needed.

“The Seattle area is a hub of design innovation and global health, so it is very exciting to partner with the Gates Foundation Discovery Center to present this new version of the exhibition,” said Smith. “We wanted to highlight a new generation of architects, engineers, designers, NGOs, and philanthropists who are partnering and working in co-creation with communities with limited resources to meet real needs.”

Several Seattle area designers are featured in the exhibition such as BURN Design Lab based in Vashon, Washington. They were part of a design team to create **BURN Cookstoves**, which reduces fuel consumption and smoke production to enable a more affordable and less toxic cooking environment. PATH, a leader in global health innovations, is featured with their **Freeze-Preventive Vaccine Carrier**, that keeps vaccines from accidentally freezing during transport to rural areas. Many newer, costly vaccines such as human papillomavirus, pneumonia, and rotavirus, are compromised if frozen, leaving vaccinated children and infants at risk for disease. Seattle-based TEAGUE collaborated on a design prototype for the rugged Kenyan-designed **Kio Kit**, which combines 40 kid-friendly tablets and headphones, a wireless charging case with 5TB of storage and pre-loaded educational content that can transform remote schools into digital classrooms.

Maya Pedal (1997 – present) Designer: Maya Pedal, Guatemala

Bicycle Phone Charger (2010 – present) Designer: Bernard Kiwia Tanzania

Other projects showcased in the exhibition include the **Maya Pedal,** human-powered machines made from readily-available, discarded bicycles that can be used without electricity to complete time-consuming tasks such as milling grain, shelling corn, washing clothes, or pumping water to supply entire neighborhoods. The **Portable Light Project** is a rugged solar textile kit with flexible photovoltaic panels that can charge medical devices or mobile phones and extend time for reading and work in the evening hours. It offers an alternative accessible source of energy for families living off the energy grid in remote areas like the Amazon rainforest**.**

In Tanzania, the majority of people live without electricity, yet a third of the country uses mobile phones. After experiencing rolling electrical outages with no way to charge his mobile phone,

Bernard Kiwia of Tanzania**,** designed the **Bicycle Phone Charger**, a mobile phone charger made from scrap bike and radio parts. The design demonstrates how appropriate and effective solutions can arise from within local communities.

The need for prosthetics is high in countries with large numbers of amputees caused by landmines, disease, and natural and man-made disasters. Made with simple components, reducing frequent maintenance, the **ReMotion Knee** is an affordable prosthetic that helps restore natural movement. The San Francisco based design team, D-Rev, has delivered the device to clinics in 28 countries.

Digital platforms and apps that improve lives are also featured in the exhibition such as **HarassMap.** After experiencing daily sexual harassment on Egypt's streets, four women launched an online crowd-mapped anonymous reporting system, HarrassMap. Anyone can share via text message individual incidents, noting the location, date and time, personal and witness accounts, and any interventions, which are aggregated to reveal hotspots.

The **Kuja Kuja Self-submit Feedback System** is designed to amplify the voices of refugees regarding services and basic needs provided at refugee camps. A simple solar-powered reporting device known as the "Talking Stick" allows refugees to give input and customer satisfaction feedback directly to a global platform that helps humanitarian organizations pinpoint areas and services that need to be improved in camps around the world.

The exhibition will also highlight local issues where design can play a key role in developing solutions to challenges facing communities in the Seattle area. Visitors can participate in a design thinking challenge, get inspired, and connect to local design community programs, and learn more about how to get involved.

ABOUT COOPER HEWITT, SMITHSONIAN DESIGN MUSEUM

Founded in 1897, Cooper Hewitt is the only museum in the United States devoted exclusively to historic and contemporary design. Housed in the historic landmark Carnegie Mansion, Cooper Hewitt is one of two Smithsonian museums in New York City. The museum's recent restoration, modernization and expansion transformed Cooper Hewitt into a dynamic, global resource for the public understanding of design. The steward of one of the most diverse and comprehensive design collections in existence today—more than 210,000 design objects spanning thirty centuries—the collection is showcased in the museum galleries, as well as fully digitized and accessible to all online at collection.cooperhewitt.org. With a mission to inspire, educate and empower people through design, Cooper Hewitt's special exhibitions and educational programs encourage everyone to discover the value of design and its power to change the world. cooperhewitt.org

ABOUT BILL & MELINDA GATES FOUNDATION

Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In the most under-resourced parts of the world, it focuses on improving people's health and empowering communities with opportunities to overcome extreme poverty. In the United States, it seeks to ensure that all people—especially those with the fewest resources—have access to the opportunities they need to succeed in school and life. Based in Seattle, Washington, the

foundation is led by CEO Sue Desmond-Hellmann and Co-chair William H. Gates Sr., under the direction of Bill and Melinda Gates and Warren Buffett.

ABOUT BILL & MELINDA GATES FOUNDATION DISCOVERY CENTER

Located next to Seattle Center and the headquarters of the Gates Foundation, the Gates Foundation Discovery Center is a catalyst to educate, inspire, and motivate local and global awareness and action. Through exhibits and programs, the Discovery Center convenes and connects people to relevant topics, stories and resources to inspire action in our hometown and beyond. Admission is always free.
Open Tuesday – Saturday 10 a.m. – 5 p.m. (6 p.m. in summer). More information at discovergates.org.

PROJECT LIST			
Project	**Designer(s)**	**Location Used**	**Description**
ADSPECS	Joshua Silver, Centre for Vision in the Developing World (UK)	Worldwide	Over half a billion people worldwide need—yet cannot afford—vision correction, limiting their ability to live normal and productive lives. In many parts of the world people are not even aware their poor vision can be corrected, and eyeglasses are often prohibitively expensive and only available in urban areas. Seeing the overwhelming need, atomic physicist Joshua Silver was determined to find a low-cost solution, and designed an affordable spectacle that can be easily adjusted onsite to immediately improve vision. As of 2009, over 30,000 AdSpecs have been deployed worldwide.
AMPLI DxRx KIT	Little Devices Lab @ MIT (USA)	Chile, Honduras, Hong Kong, Nicaragua, Senegal	Millions of people, especially those living in developing and emerging economies, do not have access to life-saving drugs because the medicines may be rare, too new, or expensive. Drawing on the wellspring of local knowledge and talent available in small, low-resource labs around the world, MIT's Little Devices Lab designed a low-cost, compact how-to kit enabling labs to make their own medicines and diagnostic tests. Each AMPLI kit (an acronym for asynchronous modular paperfluidic linear instrument-free) consists of a library of diagnostic blocks, which enables labs to examine fairly-gathered scientific specimens using open source affordable tools, and a paper pharmacy machine to supply affordable drugs.

Project	Designer(s)	Location Used	Description
BICYCLE PHONE CHARGER	Bernard Kiwia (Tanzania)	Tanzania	In Tanzania, the majority of people live without electricity, yet close to three-quarters of the country use mobile phones. After experiencing rolling electrical outages with no way to charge his mobile phone, Bernard Kiwia, a trained electrician and bicycle mechanic, was determined to find an alternative source of power. Inspired by MIT D-Lab's 2007 International Design Development Summit, he made a series of charger prototypes from bicycle spokes and brake cables. Over two years he developed it to work on all phones, and today the charger is being used throughout the city by people without access to the electrical grid.
BURN COOKSTOVES	BURN Design Lab (USA)	Cambodia, Democratic Republic of Congo, Djibouti, Ethiopia, Guatemala, Kenya, Somalia, Somaliland, Tanzania, Uganda	Responding to the environmental devastation caused by deforestation in Africa, Peter Scott launched BURN Design Lab on an island in Washington's Puget Sound to design the world's best cookstoves. BURN currently manufactures its super-efficient Jikokoa in Kenya. Their iterative design process incorporates user input at each step—from cook tests using early prototypes to multi-week home placements—combining the science of combustion and heat transfer with challenges of cooking with wood and charcoal. Expanding beyond Africa, BURN Design Lab collaborations are improving stoves around the world—burning less fuel, emitting less smoke, and lasting longer for a lower cost.
DHARAVI DIARY	Nawneet Ranjan with Dharavi community (India)	India	A hands-on technology literacy and storytelling platform in India, Dharavi Diary began with a girls' coding workshop, Girls for Change. The goal: to give girls living in the informal settlement Dharavi the skills to make changes in Mumbai and beyond, and to help them see challenges as opportunities for innovation. Their first project was to design mobile apps to address major community problems such as domestic violence, child labor, and women's security. Today, the students number over 400 and include boys. The projects encompass a range of subjects, including the Clean and Green app, a geotagged photo of rubbish that can be sent to the local municipality.

Project	Designer(s)	Location Used	Description
FLOATING COMMUNITY LIFEBOATS	Mohammed Rezwan, Shidhulai Swanirvar Sangstha (Bangladesh)	Bangladesh	One-third of Bangladesh floods annually, and it is projected to lose 17% of its land by 2050. Rather than design buildings that would be underwater in his lifetime, architect Mohammed Rezwan designs floating schools, libraries, health clinics, and training centers for parents, serving 115,000 people a year. Partnering with local wooden boat builders, discarded flat-bottom riverboats are modified for new utility. A metal truss allows for column-free open spaces and flexible use. Serving river communities not connected to the electrical grid, the boats' roofs are outfitted with solar photovoltaic panels, which charge computers, lights, mobile phones, medical equipment, and solar lanterns.
FREEZE-PREVENTIVE VACCINE CARRIER	PATH (USA)	India, Nepal	When transporting vaccines to remote locations, health workers use frozen ice packs to cool them and maintain their potency. However, many newer, costly vaccines, such as human papillomavirus, pneumonia, and rotavirus, are compromised if frozen, leaving vaccinated children and infants at risk for disease. Seeing the need, Seattle-based global health innovator PATH designed a low-cost vaccine carrier that prevents accidental freezing during the last mile of vaccine delivery. Supporting rapid adoption in under-served countries, PATH released the carrier's design into the public domain. The first manufacturer of this life-saving design is located in India.
HARASSMAP	Launch version: Designers: Rebecca Chiao, Sawsan Gad, Engy Ghozlan (Egypt), 2010–17; Current version: Designers: Rebecca Chiao, Sawsan Gad, Engy Ghozlan, Hadeer Mohamed, Alia Soliman (Egypt), 2017–present	Egypt, South Africa, Turkey	After experiencing daily sexual harassment on Egypt's streets, 4 women designed an online crowd-mapped anonymous reporting system. Anyone can share individual incidents via text message, noting the location, date and time, personal and witness accounts, and any interventions. The texts are then aggregated to reveal hotspots for harassment. HarassMap combined the groundbreaking open-source Ushahidi mapping template and FrontlineSMS software, becoming a model for other groups tackling issues such as hate crimes. In 2016 the team expanded their reach engaging academic, civic, and private organizations to take a collective stand against the epidemic of sexual harassment and assault of women.

Project	Designer(s)	Location Used	Description
HEART STRINGS	Mother Health International (Uganda)	Guinea, Haiti, India, Senegal, Tanzania, Uganda	The United Nations reports that 1,000 women die every day while pregnant or giving birth—most (99%) live in emerging and developing economies. Inspired by a string of beads women use to track menstrual cycles in relation to the moon, two midwives working in an internally displaced persons camp in northern Uganda designed a low-cost, color-coded bracelet that allows traditional midwives, who cannot read or write, to monitor fetal heart tones and pulse in pregnant women and infants. World Health Organization studies show that pregnant women who receive intermittent fetal monitoring have dramatically reduced rates of infant mortality.
KASUNGU MATERNITY WAITING VILLAGE	MASS Design Group (USA); Collaborators: Malawi Ministry of Health and Presidential Initiative for Safe Motherhood (Malawi)	Malawi	Malawi has made significant improvements for maternal outcomes, yet 1 in 36 expectant mothers still risks dying during pregnancy or delivery. Communal waiting homes accommodate at-risk women near health facilities, but these still lack proper sanitation, increasing chances of infection. Collaborating with the Ministry of Health, public-interest architects MASS Design Group devised an alternative "waiting village" of small sleeping units. The design aims to empower the women with safer, healthier, more comfortable dignified spaces. Multiple smaller units—3 units per cluster, 3 rooms each—allow for optimized natural light and ventilation, and address temperature fluctuations, while minimizing spread of disease.
KIO KIT	BRCK (Kenya); Collaborators: TEAGUE (USA), Cramasie (UK)	Belgium, Ethiopia, Kenya, Kiribati, Malawi, Mexico, Senegal, Sierra Leone, Solomon Islands, South Sudan, Tanzania, Uganda, United Kingdom, United States of America, Zanzibar, Zimbabwe	Designed in Kenya, the Kio Kit instantly turns remote schoolrooms into digital classrooms. The teacher-informed design is easy to use and rugged—dust, humidity and drop resistant—for people at the very edge of the grids. The Kit does not rely on constant power and connectivity in order to work. Nairobi-based technology innovator BRCK designed Kio Kit as part of their pioneering, ground-up development of consumer and educational electronics in East Africa. Kio Kit's educational platform—*Learn, Play and Grow*—aligns with academic Kenyan curriculum requirements and includes games to stimulate critical thinking and content to develop responsible citizenship.

Project	Designer(s)	Location Used	Description
KUJA KUJA SELF-SUBMIT FEEDBACK SYSTEM	American Refugee Committee (USA), Kuja Kuja design team (Rwanda, Uganda), IDEO.org (USA)	Rwanda, Somalia, Uganda	Embracing a 21st-century service model the American Refugee Committee collaborated with IDEO.org to design aspects of the Kuja Kuja real-time feedback system. The Kuja Kuja team (residents and staff working in the camps) ask camp residents if they are satisfied or unsatisfied with the day's service—from food and water to education and health care—and whether they have ideas on how to make them better. A public online dashboard tracks responses. To gain insights into peoples' receptivity, the design team made a series of quick iterative prototypes, from a talking stick to a simple box, to hone the current Self-Swipe 2.0 version in use today.
LIFESTRAW	Vestergaard (Switzerland)	Worldwide	More than 3 million people, mainly children, die each year from water-related diseases. LifeStraw was designed to turn any surface water into drinking water and it's one of several products that global health company Vestergaard designs, manufactures, and distributes. Approached by The Carter Center with an aim to eradicate Guinea worm disease, Vestergaard designed a plastic pipe filter to strain out Guinea worm larvae. They followed in 2005 with the design of the first version of the LifeStraw, which removes over 99% of waterborne bacteria, including E. coli and Salmonella; waterborne protozoa, including Giardia and Cryptosporidium; and microplastics.
M-PESA 1TAP	Nearex (India) for Safaricom (Kenya)	Kenya	Innovative technologies developed in Africa improve access to financial systems. Peer-to-peer money transfer service M-PESA (mobile money) began in 2007 as a simple way to send money to any mobile phone subscriber in Kenya. As of 2017, close to 90% of all cashless payments in Kenya are made with mobile phones. Responding to customer and merchant feedback Safaricom engaged India-based mobile payment startup Nearex to design a more streamlined experience with the M-PESA 1Tap system. An evolution in cashless transactions, 1Tap reduces the number of steps from eight to one, while improving accuracy and privacy.

Project	Designer(s)	Location Used	Description
MAP KIBERA	Erica Hagen, Mikel Maron, GroundTruth Initiative with Kibera community members (Kenya)	Kenya	In 2009, Nairobi's densely populated informal settlement, Kibera, appeared as a blank spot on official maps. Map Kibera evolved as a crowd-sourced community-mapping project. Using the global mapping project OpenStreetMap, GroundTruth Initiative collaborated and trained area youth to survey their neighborhoods, and with community members, they layered information to create the first digital map of the settlement. Community meetings verified the information, while the Voice of Kibera platform enabled residents to share and geo-locate news, videos, and SMS messages directly on the map, providing a voice and picture of life in Kibera from a community perspective.
MAYA PEDAL	Maya Pedal (Guatemala)	Argentina, Bolivia, Canada, Colombia, El Salvador, France, Germany, Guatemala, Honduras, India, Kenya, Mexico, Nicaragua, Spain, Uganda, United States of America	Maya Pedal designs, manufactures, and distributes over 20 different models of bicimaquinas (bike-machines) made from recycled bicycles in Guatemala. First designs were human-powered agricultural machines, later expanding to include a broad range of applications, from a bomba (water pump) that supplies water to local neighborhoods to a bicilicuadora (blender) used to make shampoos. Easy to fabricate and maintain, these ingenious low-cost devices are made with a few bike parts and only require basic tools and a welder. The fully Guatemalan workshop supports micro-enterprises, energy independence, and sustainable development to improve the environment, health, productivity, and the economy of local families.

Project	Designer(s)	Location Used	Description
PORTABLE LIGHT PROJECT	KVA MATx design team (USA) and user communities (Brazil, Mexico, Nicaragua, South Africa)	Brazil, Mexico, Nicaragua, South Africa	In response to the more than 1.3 billion people who live without electricity, an interdisciplinary team at Boston-based KVA MATx formed the Portable Light Project, a global initiative to create local jobs and promote women's stewardship of renewable energy technology. Collaborating with underserved communities, they design and make portable, rugged solar textile kits, providing clean energy and light to improve education, health care, and economic development, while strengthening the local craft traditions. By day, kits can charge medical devices or mobile phones. At night, renewable white light extends time for reading, tasks, and room illumination, creating safer opportunities to socialize, study, and work.
POT-IN-POT COOLER	Mohammed Bah Abba (Nigeria) with local potters	Burkina Faso, Cameroon, Chad, Eritrea, Ethiopia, Nigeria, Sudan	With limited infrastructure, rural Nigerian farmers found it difficult to bring fresh produce to market. The pot-in-pot cooling system keeps vegetables and fruits cool longer—tomatoes last for 21 days rather than the 2-3 days without this technology. Nigerian teacher Mohammed Bah Abba, concerned for the rural poor, designed this low-cost solution based on a simple principle used as far back as ancient Egypt. It consists of a small earthenware pot nestled within a second pot, and space between is filled with sand and water, so evaporation pulls heat away from the central pot's interior.
PROJECT MASILULEKE	frog (USA) with iTEACH (South Africa)	South Africa	South Africa has more HIV-positive citizens than any country in the world. Project Masiluleke (meaning "hope" and "warm counsel" in Zulu) uses mobile technology to raise awareness and portable kits to encourage testing and guide people into care. Its first phase delivered text messages in local languages, resulting in over 1.5 million calls to the national AIDS helpline. The innovative self-test kit allows individuals to test privately—many avoid clinics due to stigma—whenever and wherever they want. A study using the kit concluded 98% of unsupervised participants understood their self-test results and follow-up care instructions, demonstrating how a well-designed user experience can help save lives.

Project	Designer(s)	Location Used	Description
REMOTION KNEE	D-Rev (USA)	Cambodia, Chile, Colombia, Dominican Republic, Ecuador, El Salvador, Ghana, Greece, Guatemala, Haiti, Honduras, India, Indonesia, Kenya, Mexico, Nepal, Netherlands, Nicaragua, Nigeria, Philippines, Sierra Leone, South Africa, Thailand, Turkey, Uganda, United States of America, Vietnam	In many parts of the world, prosthetic clinicians cannot offer affordable care to their patients because of the high cost of prosthetic components. Non-profit D-Rev designs and delivers low cost medical devices for underserved clinics by listening to patients and practitioners. Currently working in 28 countries, they can deliver a device, including the ReMotion Knee, to clinics around the globe in one week. No longer limited to crutches or a wheelchair, amputees can enjoy improved mobility—and are now empowered to complete their education, return to work, and start new businesses.
SAFE AGUA PERU	ArtCenter College of Design (USA) with the Cerro Verde community (Peru)	Peru	SAFE AGUA Peru is a multi-disciplinary design studio where students from California's ArtCenter College of Design live with families in Cerro Verde, a 30,000-person informal settlement perched on the hillsides that surround Lima, Peru. Student teams co-create innovative products and services to improve access to safe water directly with community members. Developed in partnership with a Chile-based nongovernmental organization—the TECHO Innovation Center and its Socialab incubator—the initiative designs full-size sustainable prototypes for potential scalable implementation.

Project	Designer(s)	Location Used	Description
SHE28	Sustainable Health Enterprises (Rwanda); Partners: Rwanda Women's Network (Rwanda), Swisscontact (Switzerland), UNICEF Rwanda (Rwanda)	Rwanda	One out of 5 girls and women in Rwanda miss up to 50 days of school and work because they cannot afford to buy menstrual pads, costing the country's economy millions. Elizabeth Scharpf founded SHE28, which couples taboo-busting health education with a business model based on local production. The initiative trains female farmers and employs women at the SHE production site. Locally grown banana fibers form the absorbent core of the pads. The sustainable design reaches over 25,000 women and girls. The team is researching potential launches in Bangladesh, India, Kenya, Nepal, Uganda, and Zimbabwe.
SHELTERBOX	ShelterBox (UK)	Worldwide	Overwhelmed by the number of disasters around the world, the head of the Cornwall, England chapter of the international service organization Rotary sent out over 100 aid boxes to begin ShelterBox. An alternative to less humane communal shelters, the singular shelter-in-a-box gave people space for families to rebuild hope and dignity. Pre-deployed to 20 locations around the world, the mobile design enables multi-modal delivery—from camel to helicopter—to the most remote locations. With its core mission to save lives, the organization collaborates with other international aid groups, delivering over 135,000 ShelterBoxes, 29,000 Shelter Tool Kits, and 14,000 SchoolKits from Afghanistan to Zambia.
SMARTCANE	AssisTech Laboratory at IIT Delhi (India) and Saksham Trust (India)	Australia, Bahrain, Egypt, Ethiopia, France, India, Indonesia, Japan, Philippines, Poland, South Africa, Sri Lanka, Taiwan, United Arab Emirates	Visually-impaired people in countries like India face different challenges—including low-hanging wires or signage with inadequate head clearance along often narrow foot paths—than their counterparts in locations with stricter regulations. With no footprint on the ground, obstacles can cause serious injury if not detected by a typical white cane. Designed in India, the SmartCane detects obstructions between a person's knee and chest up to ten feet away. Sensors emit and receive ultrasonic waves that trigger haptic vibrations when a physical hazard is detected, using various patterns to differentiate obstacles and distances.

Project	Designer(s)	Location Used	Description
SOLAR EAR	Godisa Technologies Trust (Botswana)	Worldwide	An estimated 66% of people living with hearing loss reside in underserved countries, yet only 10% use hearing aids. Batteries, hard to find in remote areas, are also the largest expense. In 2002, a team in Botswana—the majority deaf—designed an affordable, quality hearing aid and a solar charger, costing only $100 compared to $1,800 for conventional aids. This product innovation allows children to attend school, and adults to work. In China, the Botswanans trained deaf workers, reversing a policy that prohibited the deaf from electronics jobs. In Brazil, Solar Ear further developed a low cost digital hearing aid.
TABLE HOUSE	Rainer Hehl, ABC Office (Germany) and Jo Noero, Noero Architects (South Africa)	South Africa	South Africa's post-apartheid national policy required the government to build housing for all, but the result has been 3.5 million 475-square feet houses on the city edge. Many people remain in precarious self-built "shack" settlements. Responding to this crisis, two award-winning architects teamed with a social entrepreneur in Cape Town to design a new housing typology. Not a completed work, Table House acts as a trigger for residents to creatively extend their homes by recycling and upcycling existing building materials. The low-cost permanent structure enables residents to improve their houses gradually and establish a local building economy based on social and cultural practice.