



The Moving Windmills Innovation Center

Cultivating local possibilities,
Empowering global potential

MOVING WINDMILLS


OVER THE LAST DECADE, MOVING WINDMILLS HAS TRANSFORMED THE LIVES OF RESIDENTS OF KASUNGU, MALAWI

In 2001, William Kamkwamba, a young man from Kasungu in Malawi, Africa, was forced to drop out of school due to a devastating famine. Turning to self-education, William saw a picture of a windmill in a library book. Using found scrapyard parts -- a broken bicycle, tractor fan, plastic pipes, bamboo, wires -- William built a series of windmills that would save his community, transform his life, and lead him to new opportunities. He was invited to matriculate at the first pan-African high school, African Leadership Academy, and further his education at Dartmouth College's Thayer School of Engineering in the United States. His story has inspired books, TED Talks, and a Netflix film. His vision, and that of Moving Windmills Project, is to provide the inspiration, mentorship, and tools for young innovators to dream and do.

To further that goal and in order to address the complex and unique needs of communities in Africa, Moving Windmills Project was founded and registered as a U.S. 501c-3 organization in 2007. We work with local leaders to determine, organize, and implement appropriate solutions that build community and solve pressing problems.

Moving Windmills' current and recent projects range from a comprehensive plan to empower Malawians in Kasungu with access to solar powered electricity, to providing clean water from a simple tap, to building sustainably powered schools, to sponsoring a young men's football (soccer) team. From saved pain and labor for individuals, to lower energy costs which means more funds for food and education, to a rise in community spirit, these projects have long-lasting and wide-ranging ripple effects.

Now, Moving Windmill Project is embarking on a period of evolution and growth and is poised to create a new home for creative problem-solving in Malawi, the **Moving Windmills Innovation Center**.



KASUNGU

MALAWI

AGRICULTURE & EDUCATION IN MALAWI

2/3

of eligible Malawians
will not finish primary
school

80%

of Malawians are
subsistence farmers

25%

of eligible land in
Malawi is irrigated

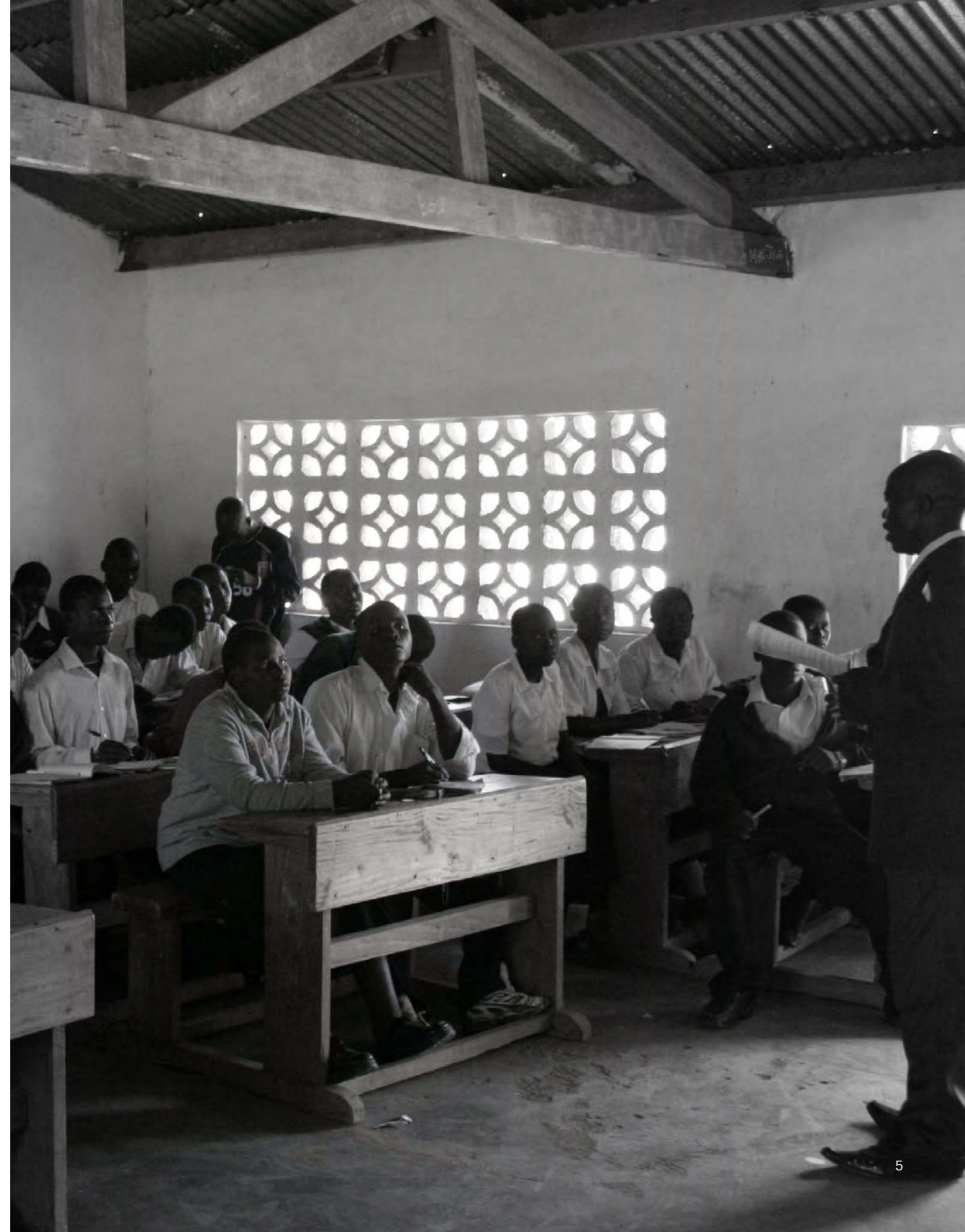
MALAWI IS A YOUNG COUNTRY - NEARLY HALF OF THE POPULATION IS UNDER THE AGE OF 15 YEARS OLD.

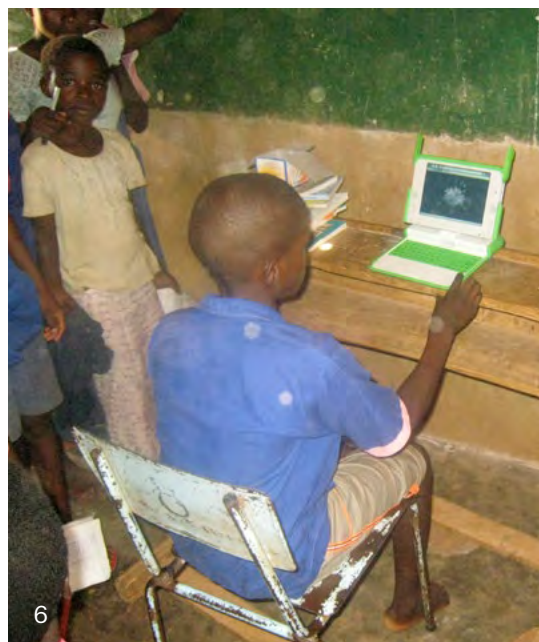
The population, expected to double in the next 20 years, will test an education system that is over-enrolled, under-resourced, and under-utilized. In 2018, 31% of eligible Malawian students completed primary school, 15% completed secondary school; this represents the lowest rates of access to education in East Africa.

For decades development specialists have promised Malawians that more education means better-paying jobs, but in a fragile economy based on small-scale agriculture, this is not true. Over 80% of Malawians are subsistence farmers, yet agriculture curriculum in schools is limited to multiple-choice test questions that are more likely to test a student's English ability than improve their farming practices.

Our team at Moving Windmills has the skills and knowledge to help resilient farmers who can problem-solve through Malawi's unique challenges and secure thriving futures for their families and communities. We have a track record for developing viable, low-cost solutions, practices, and tools: small-scale drip irrigation systems, simple machines that save time and energy, natural crop defenses against invading pests like Fall Armyworm, and locally processed fertilizers.

Moving Windmills strives to empower individuals to respond to growing environmental hazards and encourage creative problem-solvers. The challenges of the future require communities of enabled innovators, and that starts with experiences and mentorship that address Malawi's reality. Our emphasis is on creating educational experiences that emphasize secure livelihoods through improved agricultural practices.





1. Solar Power Project
2. Clean Water Access
3. Irrigation Schemes
4. Machine Shop
5. Percussion Drilling
6. Wimbe Primary School
7. Wimbe United Football Club

MOVING WINDMILLS PROJECT: EMPOWERING PEOPLE TO CHANGE LIVES

SOLAR POWER PROJECT In collaboration with Project Navigator, Moving Windmills created a comprehensive plan to empower Malawians in Kasungu with access to solar electricity, dividing uses into four categories: water pumps, maize mills, irrigation systems, and Community Designated Solutions.

CLEAN WATER ACCESS Accessing water is the key to daily activity in Malawi, and a burden experienced greatest by women and young girls. In 2010, Wimbe village had only three working water wells, forcing multiple time-consuming trips every day to cook, clean, and do laundry. In response, Moving Windmills Project installed and maintains wells that greatly reduce walking distances for the 200 women living nearby and countless others who come to fill containers free of charge.

IRRIGATION SCHEMES Less than 25% of eligible land in Malawi is irrigated. Moving Windmills supports small-scale garden irrigation schemes using water pumps, water wheels, plastic bags, and PVC tubing in the Kasungu area. These ventures support multiple annual harvests, increased crop yields, and greater economic stability.

MACHINE SHOP Moving Windmills occupies a small space in Wimbe where William designs projects with observing groups of youth. Recent designs include a soya seed planter, water wheel, solar panel support and security structure, rock breaking machine, automated drilling system, and increased-efficiency wood-burning stove. Hands-on learning and mentorship are exemplified in this tiny shop.

PERCUSSION DRILLING Since 2010, Moving Windmills has refined Percussion Drilling which greatly reduced the cost of water access in rural communities. Moving Windmills designed and manufactured a human-powered system that can be broken down and strapped to a motor bike or bicycle to access even the most remote areas.

WIMBE PRIMARY SCHOOL where William attended, was initially constructed in 1950 for a total capacity of 450 students. In 2013, over 1,480 students were attending. Community members provided land, local materials, invaluable labor, and committed to sending girls and boys to a new campus in equal numbers. The result: a new Wimbe primary school featuring repaired classrooms, two additional classroom blocks, solar and wind power, after-hours lighting, and new laptops for student use.

WIMBE UNITED FOOTBALL CLUB draws students from five area villages and provides free access to organized recreational play for appropriate age levels that is safe, productive, competitive, and instills community values and mentoring relationships. Wimbe United team members and mentors encourage each other to continue their studies while providing a fun outlet and a break from daily concerns. Past Wimbe United players have gone on to college on full scholarships, a rarity in Malawi, where only 3% of the population attends universities. Some players have also gone to play in the Malawian professional league.

MOVING WINDMILLS INNOVATION CENTER

INSPIRING AFRICAN INNOVATION.

The Innovation Center will be a hands-on, collaborative-learning center with thoughtful and compassionate spaces designed to inspire African innovators. Here, young people will find the mentorship, tools, skills, and agency to address the complex problems unique to their communities. Our team of mentors will guide them to ideate, co-create, and implement simple solutions that have the power to change lives and ease burdens.

Moving Windmills has partnered with **MASS Design Group** to design and build the new campus, located on a 30-acre (12 hectare) site in Kasungu, Malawi, Africa. The Innovation Center will:

- > Gather hundreds of students, mentors, and community members per year together to create "African solutions to African Problems;"
- > Create partnerships with area organizations and individuals that are mission-aligned;
- > Drive economic prosperity in Malawi;
- > Be a community hub for the region and the nation;
- > Serve as a model for collaborative learning and human-centered design throughout Africa and the world;
- > Provide administrative infrastructure and a home base for Moving Windmills to advance projects and further our mission.



MASS DESIGN GROUP

MASS Design Group is a non-profit organization with a mission to research, build, and advocate for architecture that promotes justice and human dignity. MASS does this through engaging with the communities in which they work to understand project opportunities, challenges, and inspiration in order to design systemic change.

AGRICULTURAL INNOVATION

Test plots for agriculture allow students to learn new techniques and test innovative technology to increase yield.

EVENT & EDUCATION CENTER

Event, gathering, workshop, and coworking space

CAMPUS HOUSING

Accommodations for students, staff, visitors, and volunteers

A HOME BASE FOR CREATIVE SOLUTIONS

Currently the Moving Windmills Project is housed in the personal offices of staff and Board Members from around the world. The Innovation Center will bring our collective energy together and provide a home base for our team, our current activities, and all our future plans.

CORE PROGRAMS

STUDENT COHORTS & APPRENTICES

Cohorts of 10-15 secondary school aged students will attend the Innovation Center for six-week programs on creative problem solving using human centered design. These young innovators will then feed into smaller classes of annual Apprentices, who will live and learn at the center for 9-12 month periods, serving the Cohort Programs, working closely with the Mentors while building their teaching and administrative skills.

CENTER FOR AGRICULTURAL INNOVATION

With spacious fields and the capacity to grow crops year-round, the Moving Windmills innovation center will be a hub for local and international organizations to pilot new farming innovations and equipment with a captive audience of adaptees even through Malawi's dry months.

COMMUNITY SPACE

As one of the few community spaces in Kasungu with consistent electricity and internet, the Innovation Center will become a hub for entrepreneurs, innovators, and local organizations working in education, agriculture, and innovation. At MWIC, young people will find the tools and mentorship to rethink seed selection, post-harvest processing for commercial markets, and skills for negotiating with local buyers.

EVENTS & CONFERENCE HUB

Hosting a training or conference at the Moving Windmills Innovation Center offers inspiring infrastructure and a chance for visitors to observe a model of education that values local knowledge and creative problem solving



CAMPUS LAYOUT

COMMUNITY GATHERING & EVENT SPACE

Multi-purpose indoor events and dining hall with two levels. This space will host conferences, events, and dining.

EDUCATION & TRAINING SPACES

MACHINE SHOP

Includes metal and wood work, with space for assembly, work benches, breakout rooms, offices, and shower and changing rooms.

COMMUNICATIONS STUDIO

Services include video and audio studios with recording and production areas.

FIELD SPACE (FARM)

Gathering and storage space for farming and field activities, including a barn, greenhouse, and support space for cleaning, packing and cooking produce.

LIBRARY & COWORKING SPACE

Includes a library for study, computer room for virtual classes, and small meeting rooms for tutoring sessions, meetings, and skype calls.

CAMPUS HOUSING

STUDENT & APPRENTICE DORMITORY

Housing for 16 students in shared dorms and 16 apprentices in studio apartments with communal events, studying, cooking, and washing.

FELLOW & STAFF HOUSING

Includes two and three bedroom units with bath for families of visiting teachers and fellows.

MWIC INN

A 28-bed hotel for hosting tourists, visitors, and volunteers.

A PHASED APPROACH

Phase 1

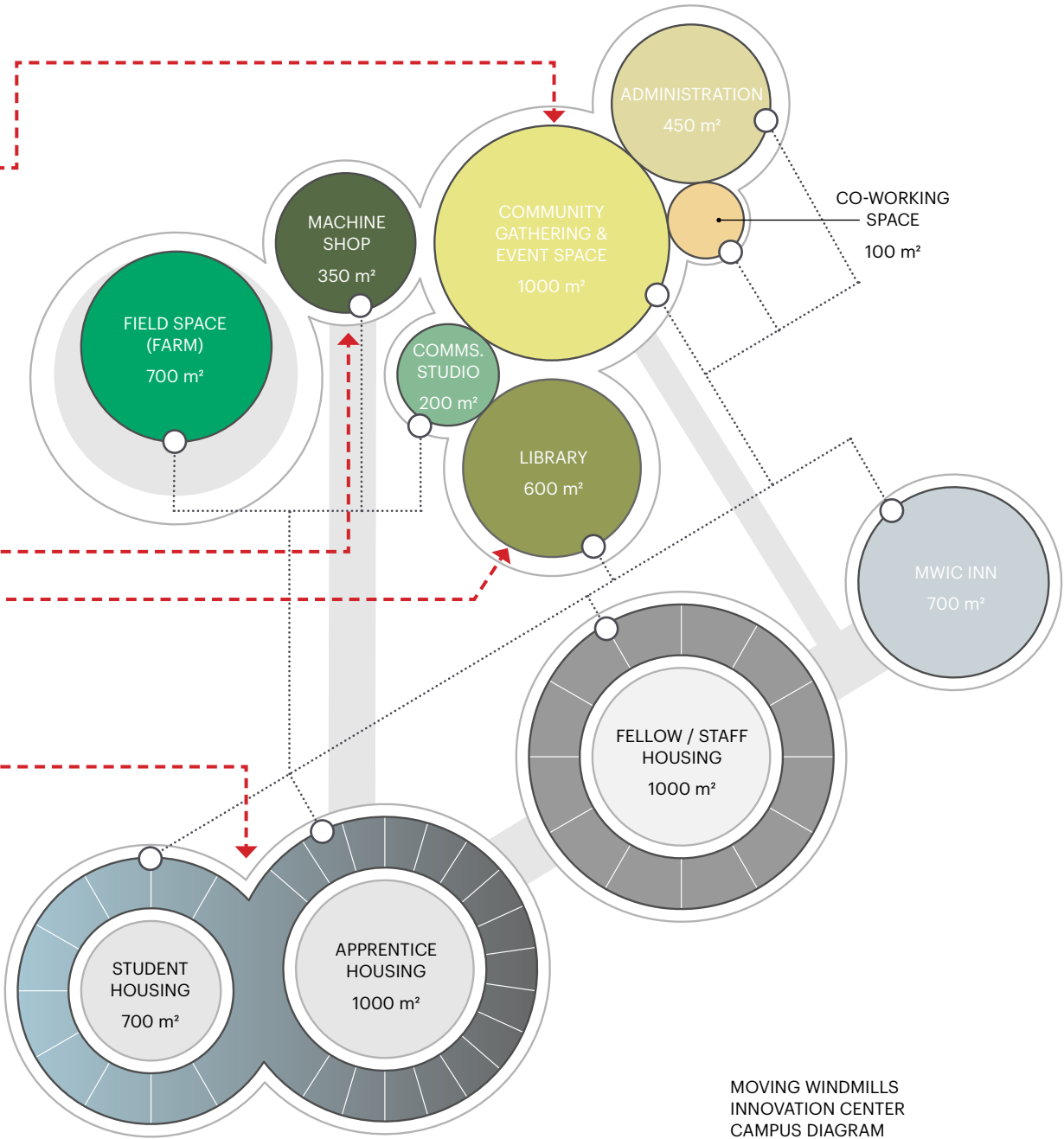
- Machine Shop
- Community Gathering & Event Space
- Student Housing

Phase 2

- Field Space (FARM)
- Communications Studio
- Apprentice Housing
- MWIC Inn

Phase 3

- Library
- Co-Working Space
- Fellow & Staff Housing
- Administration



MOVING WINDMILLS
INNOVATION CENTER
CAMPUS DIAGRAM

**THE MOVING WINDMILLS PROJECT
ENVISIONS A FUTURE WHERE TALENTED
YOUTH DESIGN AND CO-CREATE
SOLUTIONS THAT DIRECTLY RESPOND
TO THE REAL-WORLD NEEDS OF THEIR
COMMUNITIES**

LOCALLY FABRICATED
The design highlights
unique applications of
locally available materials
like timber and compressed
stabilized earth blocks

SHADED EXTERIOR SPACE
The public exterior is covered
to encourage interactions
between students and
protect from the elements

WINDMILLS
Continuing the legacy of
Kamkwamba by constantly
improving the design in
providing water and power
to the entire campus

SUSTAINABLE DESIGN
Designed to collect
rainwater, promote natural
ventilation and reduce
resource demands

ZONES OF GREENERY
Increasing the vegetation
creates natural shade and a
micro-climate on the site

WELCOMING ENTRY
Invite visitors to the
multi-purpose hall for
large gatherings

MAKERSPACE
Innovation center of the
campus teaching students
local applicable skills

IMPACT AIMS

OUR DREAM IS TO BUILD IN A NEW HUB OF TRAINING AND EDUCATION THAT WILL...

1

UNLOCK the latent potential in young innovators of Malawi

- > Cohorts of 10-15 secondary school aged students will attend the Innovation Center for six-week programs
- > An annual cohort of Apprentices will live and learn at the center for 9-12 months while building their teaching and administrative skills
- > The Cohort Students and Apprentices will be led by 16-20 Fellows with myriad skills who will either live full-time at the Innovation Center, or be brought in to lead specific programs and workshops.
- > Together, the Cohort Students, Apprentices, and Fellows will address the complex problems and pressing issues that face communities in Africa such as food security, energy-saving technology, and access to education

2

PROMOTE community revitalization

- > Provide improved access to technical training and fabrication space to increase access to clean water and power for local residents
- > Leverage the power of education and innovative mentorship to boost the financial, educational, and social wellbeing of families
- > Boost the local economy by offering job creation and training opportunities through the construction and operation of the Innovation Center
- > Build public awareness and interest in technological innovation through community engagement and public programming

3

INSPIRE broader systemic change

- > Serve as a sustainable model for high quality, community-oriented technical education in rural and peripheral areas of Malawi
- > Catalyze greater focus and investment in entrepreneurial opportunity in Africa
- > Reduce brain drain by inspiring young Malawian innovators to stay and start businesses in-country
- > Complement government initiatives through capacity building and partnership
- > Enhance the well-being of Malawi and Southern Africa through the Apprentice and Fellows programs to train a cadre of innovators to start additional Innovation Centers around the regions





THE BOARD



Tom Rielly

Tom is a co-founder of Moving Windmills Project and the West Coast Community Director for TED. Tom is passionate about climate change, design, and civil rights



Blessings Chikakula

Blessings is pastor of Church of Central Africa Presbyterian (CCAP) Mitupe. Blessings Moving Windmills since 2008 as a translator, advisor, and community relations guru



Michael Markiewicz

Michael is a CPA/CFA with over 35 years of experience in providing financial guidance. Michael has managed Moving Windmills finances since 2007



Emeka Okafor

Emeka is a venture catalyst and entrepreneur interested in sustainable technologies and paradigm-breaking in Africa



Edith Sikelo

Edith is a librarian who has helped young Malawians access knowledge through books for decades

ADVISORS



William Kamkwamba

William is an author and innovator interested in closing the gap between knowing and doing in Malawi and throughout Africa



Olivia Scott Kamkwamba, Ph.D.

Olivia celebrates new ways of thinking in Africana studies and fosters connections and community through shared dialogues.



Gilbert Wimbe

Gilbert is a filmmaker, farmer, and entrepreneur passionate about his work with Awawo Straws and Silverwheels Cinema



Amanda Rafuse

A seasoned non-profit leader, educator, and theater artist, Amanda has a proven track record in philanthropy, strategy, creative communications, producing, team building, and leadership



Eric Bunge

Eric is a creative thinker interested in developing social profit organizations focused on empowerment and mentorship

The Moving Windmills Innovation Center

Inspiring African Innovation
in Kasungu, Malawi

LEARN MORE

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www.massdesigngroup.org

Moving Windmills Project is a United States registered 501-c-3 non profit, Tax ID number 26-238180"