



2011 MUHAMMAD YUNUS INNOVATION CHALLENGE TO ALLEVIATE POVERTY



improved agricultural processes for better livelihoods

The MIT International Development Initiative (IDI) is pleased to announce the 5th annual Muhammad Yunus Innovation Challenge to Alleviate Poverty. Each year, the Yunus Challenge highlights a pressing and often overlooked need of the world's poor and enables MIT students to develop solutions to address it through a variety of mechanisms, including the IDEAS competition, D-Lab, and public service fellowships, internships and grants. The Challenge, named in honor of 2006 Nobel Prize winner Dr. Muhammad Yunus, was initiated and is supported by MIT alumnus Mohammed Abdul Latif Jameel, supporter of the IDI and benefactor of the Abdul Latif Jameel Poverty Action Lab (J-PAL).

Save the Date: The 2011 Yunus Challenge Kick-Off Dinner
7-9 PM, Oct. 21st in the R&D commons, MIT Stata Center

The 2011 Yunus Challenge: improved agricultural processes for better livelihoods

The 2011 Yunus Challenge will be awarded to participants who create an innovative solution that has the most potential to increase adoption of beneficial agricultural technologies, financial systems, or market access among smallholder farmers to improve their livelihoods. Participants are encouraged to put their energy toward ***creating solutions that overcome the behavioral and situational hurdles of the adoption of agricultural innovations***, rather than looking at the challenge only in terms of the creation of new technologies. That said, the proposed solution may involve a physical device.

Background

Agricultural innovations are potentially transformative, especially in sub-Saharan Africa, where the sector accounts for the biggest share of the economy and employs over two-thirds of the population, either directly as farmers and laborers or indirectly as sellers and entrepreneurs. Research shows that agricultural innovations can help break the cycle of poverty by improving incomes while reducing hunger and malnutrition, which affect over 1 billion people and are contributing factors to the majority of the deaths of children under 5. The World Bank estimates that growth in the agricultural sector is twice as effective as other sectors in reducing poverty.

Over the past few decades, billions of dollars have been invested in developing agricultural innovations. Some examples include:

- Improved seeds for higher yield, resistance to pests and disease, and better nutrition
- Environmentally sustainable farming techniques and fertilizers
- Affordable water pumps and drip irrigation systems
- Methods to convert agricultural waste into resources like charcoal and fuel
- Technologies for information transfer about market opportunities
- More efficient devices for post-harvest processing, transport and storage

Yet adoption of these promising agricultural innovations has been far from ubiquitous, and remains especially low among the poor. Around the world, 550 million smallholder farmers still

lack access to beneficial agricultural innovations. Poor farmers, who are mostly women and often have low levels of education, may be left out of training services and have difficulty accessing credit, insurance, land, and markets. The Agricultural Technology Adoption Initiative (ATAI) has identified a spectrum of challenges to adoption of agricultural innovations, ranging from lack of information about available technologies and their benefits, to distribution issues stemming from weak supply chains and infrastructure (a summary is available online at <http://atai-research.org/Our-Approach.html>).

Without access to agricultural innovations, smallholder farmers must manually grow, harvest and process important food staples like maize (corn) and grains, which is labor intensive and time consuming. Conducting agricultural activities by hand also contributes to avoidable injuries and pulls children out of school, since producing food for survival takes priority over education in subsistence farming households. Manual work is typically less precise and much slower than technology, which can lead to unnecessary waste of crops as well as farming inputs like water and fertilizer. Furthermore, options to sell agricultural products at fair prices may be limited if farmers lack transportation, storage facilities and information about market prices. As a result of these and other factors, smallholder farmers may put in long hours of hard labor, but still struggle to capture enough value from their crops to support their households and remain vulnerable to seasonal and market variations.

ATAI suggests that to maximize the impact of investments in agricultural innovations, we need to know why technologies and systems that could dramatically improve people's lives are not being used and then determine how best to deliver them. This means understanding the political, economic and socio-cultural landscape as well as how smallholder farmers behave and make choices about the investments, utilities and risks associated with new innovations. It is also important to explore how barriers to adoption relate to one another and whether some consistently matter more than others. Targeting a single barrier without addressing others may be unsuccessful, but at the same time, attempting to overcome all barriers simultaneously may not be cost effective or necessary.

Key Considerations and Judging Criteria

Solutions should be designed for implementation in communities living at or below the poverty level, where infrastructure is limited. Innovation, feasibility and impact will be important criteria in judging. Proposed solutions should be new, focus on measurable change, and aim for a price point that makes intervention accessible to the poorest populations and allows for dissemination on a large scale. Specific aspects to address include, but should not necessarily be limited to:

- Affordability
- Acceptability within the community (e.g., likelihood of adoption)
- Livelihood impact (e.g., increased incomes from value-adding activities, time and labor saved)
- Health impact (e.g., reduced hunger from higher yields, improved nutrition)
- Environmental impact (e.g., waste reduction or reuse, decreased land and water degradation)
- Scalability

Credit will be given for supporting rationale regarding how the solution will directly address the issues faced. The needs of the poor are wide and varied and teams are not expected to address all

issues surrounding adoption of agricultural innovations, however, proposed solutions should address a particular need and fill it well. ***Participants are encouraged to work on solutions with a specific community or region in mind, as this can be helpful in identifying constraints and providing context.***

For more information or resources about the 2011 Yunus Innovation Challenge to Alleviate Poverty, please visit http://web.mit.edu/idi/yunus_2011.htm or contact Laura Sampath at lsampath@mit.edu.

Additional info for the website:

Supporting Initiatives

Opportunities are available for students who want to learn more about the challenge and the context in which a solution should operate. Students are encouraged to apply for **Public Service fellowships, internships** and **grants** that provide them with the opportunity to work on a potential program and with communities to develop a feasible solution which takes local context into account. For more information, please contact Alison Hynd at hynd@mit.edu.

For additional support in gathering information about the local context, customs and conditions of a specific community or country, participants may leverage the expertise of **D-Lab teams** who have local partners in more than 20 countries and who will be doing field work over the 2011 January IAP session in eight countries across three continents. For more information, please contact d-lab-trip-leaders@mit.edu.

Participants also may enter proposals into the **IDEAS Competition**, where special awards have been created to provide winning teams with funding to pursue their ideas. For more information, please contact the IDEAS coordinator at ideas-admin@mit.edu.

Sample Resources

- Agricultural Technology Adoption Initiative: <http://atai-research.org/>
- Consultative Group on International Agricultural Research: <http://www.cgiar.org/>
- Feed the Future: <http://www.feedthefuture.gov/>
- Food and Agriculture Organization: <http://www.fao.org/>
- International Development Enterprises: <http://www.ideorg.org/>
- International Food Policy Research Institute: <http://www.ifpri.org/>
- International Fund for Agricultural Development: <http://www.ifad.org/>
- Jameel Poverty Action Lab: <http://www.povertyactionlab.org/>
- KickStart: <http://www.kickstart.org/>
- One Acre Fund: <http://www.oneacrefund.org/>
- World Food Programme: <http://www.wfp.org/>