Rwanda: Effective, Efficient, and Innovative Foreign Aid Approaches to Revitalize the Agricultural Sector in Rwanda

Small Scale (SS) farmers in Rwanda and most Sub Saharan African countries do not have the financial understanding and enabling environment to live sustainably. Current economic opportunities are unable to effectively and efficiently benefit SS farmers because of high interest rates and a lack of acknowledgement of cultural needs. Local microfinance institutions often charge high interest rates and provide little financial and technological assistance to the farm owners. As a result, SS farmers are unable to leverage the money towards improving sustainable technology and have been left off in worse financial and living situations. Online loan services, such as Kiva, target small entrepreneurial businesses and farms, but interest rates of 35% are not affordable. People who “invest” through sites such as Kiva do not gain any return on their “investments” and are therefore not incentivised to contribute large sums of money, which means that everyday people are the primary source of capital. Humanitarian aid has been very important and impactful in Rwanda following one of the worst genocides in world history, but is still in need of more innovative approaches to utilizing and securing capital. Many current foreign aid approaches do not properly recognize and respect the cultural contexts of food insecure nations, which has lead to failed foreign aid initiatives. Foreign aid, while beneficial and effective on the surface, has lead to claims that it perpetuates the crises and repressive policies of the Tutsi regime. An innovative online investment platform is therefore needed. Using Rwanda as part of its initial pilot program, my plan aims to fix many of the growing problems with current approaches towards foreign aid and to empower SS farmers to improve their agricultural existence, while not impeding on sustainable progress.

Following the 1994 genocide, Rwanda has been a large target of foreign aid. The World Bank, in their latest Country Policy and Institutional Assessment (CPIA) Africa report (a report that ranks the qualities of countries policies to support sustainable development), ranked Rwanda 1st place, making it a prime candidate for further foreign aid. However, while Rwanda has benefited from more foreign aid sources, it has increased their reliance on foreign aid substantially. The government relies year after year on steady

__________

streams of aid to fulfill their current reforms and efforts, and while they have been trying to wane off their heavy reliance, their population will still need investment to further their agriculturally-based economy.  

To establish that SS farmers in Rwanda are a prime target for the pilot of an innovative online investment platform, it's vital to also understand the intricacies of their everyday life and the current status of their country.

The average family size is 4.3, though in rural areas the size is even larger. The population density is the highest in the region, with 415 people per square kilometer. The population growth rate is also high in comparison, sitting at an annual rate of around 2.6%. Due to the fact that most SS farmers are subsistence farmers, they rarely enter commercial markets. The most common crops grown are potatoes, rice, beans, maize, wheat, and cassava, though fruits are also sometimes grown, such as mangoes, pineapple, plantains, and bananas.

Rwanda has the highest rate of children enrolled in primary school in Africa, and completion rates have gone up by 20% in recent years. Access to healthcare has also skyrocketed during this same time period. Health care programs are available primarily through the Mutuelles de Sante, of which over 91% of Rwandans are a member of. Gender equality in Rwanda, while an issue in many African countries and a topic of focus by development initiatives, is third to only Sweden and Finland according to the 2009 Social Watch Gender Equity Index. Women are represented in a large number of governmental institutions and are highly involved in agricultural practices. While Rwanda was rated very highly in the 2009 Social Watch Gender Equity Index, the wage gap between men and women is, in fact, widening. From 2005 to 2011, the wage gap widened from 33% to 67%, making the median monthly salaries RWF 22,000 and 13,000 for men and women, respectively.

According to the World Bank’s profile on Rwanda, agriculture is the “backbone of the economy” and accounts for 31.9% of the country’s growing GDP. However, despite the country's growth and stability in other sectors, the agricultural economy remains fragile. “Rough terrain, erosion and climatic hazards combine with geography and the lack of modern technology to create serious constraints to agricultural


development.” The size of SS farms (.59 hectares) is readily decreasing as population pressure increases, making it increasingly important that SS farmers be equipped with the proper technology and education to improve productivity.14 Farm owners rely heavily on rainfall for their crops, with only 4% of farmers having implemented irrigation systems.15 This discrepancy creates a tremendous opportunity in the marketplace to fill the growing need.

Another facet of the fragile agricultural sector is farmers’ access to marketplaces, an integral part of the livelihoods of many. On average, farmers are 4.4 kilometers from the nearest market place and 21 minutes from the nearest road.16 Improving access to innovative and cheap technological solutions will assist in solving the “access to market problem” by creating greater yield rates, increasing demand. However, other solutions will be necessary.

Given the current state of the agricultural sector in Rwanda, understanding the major barriers to productivity and the areas of needed investment is crucial for development. As mentioned earlier, only 4% of farmers have implemented irrigation systems, with many limited by their topological regions. SS farmers are becoming increasingly unable to earn a living wage due to environmental issues such as land erosion, climate volatility, and population pressure. These factors and others are main contributors to Rwanda’s rural poverty rate of 76% for agriculture-dependent families.17

Improving access to nutrition is also key to Rwanda’s development. Policies and reforms have been put in place over the years to try and combat undernutrition, which is responsible for $820 million dollars in losses or 11.5% of the GDP. However, the current yield rate of SS farmers is prohibiting the population from reaching daily food requirements, creating a barrier to proper nutrition.18

Foreign aid, following the 1994 genocide, played a crucial role in the development of Rwanda. Foreign aid accounts for 30-40% of the Rwandan Government's budget and has allowed them to identify key policies and enact institutional reforms to further stabilize multiple economic sectors. The World Bank argues that foreign investment in agriculture is the best possible way to further the goals Rwanda plans to achieve, including: a reduction of poverty, economic stability, higher employment rates, and a maximization of the potential of export earnings.19 While foreign aid does not always have direct effects on agricultural productivity, household income, or food availability/quality, it can be leveraged well to improve all of these. However, foreign aid initiatives that are not leveraged well or have failed, are due largely in part to a lack of acknowledgment or understanding of the complex social and cultural needs. Much of the aid that has been donated to or invested in Rwanda has been successful, but SS rural farmers

still face instability in their sector, potentially due to the aforementioned observations. Therefore, new foreign aid approaches are needed and should be encouraged in order to make a positive impact on Rwanda’s agricultural sector.

Foreign aid to any country is dictated to a large extent by the condition of the country. Rwanda is a prime example. In the 12 years following the devastating conflict in 1994, Rwanda received over 5 billion dollars of foreign aid, far more than the average of any other sub saharan country. However, in 2012, allegations of the government assisting rebels in the Congo lead to a halt of a significant amount foreign aid, causing economic growth to sharply decline. In 2015, Claver Gatete, Rwanda’s Finance Minister, alluded to some of the recent trends, “The donor aid ... is unpredictable and it’s very small. It’s shrinking every day.”

Foreign aid is not always in the form of a monetary donation or loan. In some cases, humanitarian organizations will donate food, technologies, or hands on assistance. However, measurements of the trends of foreign aid are largely tracked through these monetary donations/loans. The trend of foreign aid to Rwanda, like Claver Gatete suggested, is that they will continue to receive less and less each year. These trends may to some extent curtail Rwanda’s development as a country, specifically their agricultural sector, if the importance of making appropriate and necessary changes aren’t recognized. Rwanda will need to decrease their reliance on aid in order to structure their policies and reforms more effectively, and potential foreign investment will also need to be reevaluated. If Rwanda adopts foreign aid approaches focused on agricultural development that either maximize current funds or through their creation create new funds, the situation of SS rural farmers will be improved, and as a result benefit the more than 70% of citizens involved in the industry.

With 50% of the population under the age of 20, revitalizing the agricultural sector will not only benefit the current farmers, but will encourage youth involvement. In a time of population growth and stressed food systems, getting youth involved in agriculture is crucial for future sustainable development.

Since 1994, increased foreign aid has benefited SS rural farmers, but recently emerging issues like climate volatility, a lack of implemented modern technologies, and population increase has left many in vulnerable situations. However, improving foreign aid approaches can have measurable impacts on farmers and stabilize their living conditions. With greater access to appropriate technological solutions and education, farmers will have the power to increase crop production and in turn improve their wellbeing and income. Irrigation systems and other methods will also help foster resiliency in the face of unpredictable weather and climate related shocks.


Proper foreign aid solutions will also recognize the importance of knowledge distribution in order to ensure that farmers are improving their production while not degrading the environment. Agricultural systems that do not acknowledge the importance of methods that maintain the environment, such as crop rotation and integrated technologies, will have negative impacts on overall sustainable agricultural development. Improving the agricultural sector through effective aid will also help to benefit Rwanda’s agriculturally-based economy, which makes up 31.9% of the GDP. While almost all foreign aid initiatives aim to improve a sector and reduce poverty, cross-country statistical economic analysis by The World Bank has also shown that growth in the agricultural sector is two times as effective at reducing poverty than growth in non-agricultural sectors.

Reevaluating and improving foreign aid approaches will also stand to benefit women, helping bridge the gender inequality gap. Women make up 54% of the total population and also are the primary workforce in subsistence level farms. However, most function with insufficient skills, access to markets, and control over land and agricultural services. Successful foreign aid initiatives will recognize the important role women play in the agricultural sector and create specifically oriented programs to educate and empower them.

In attempting to improve foreign aid, it is also important to acknowledge the challenges that may arise. Major issues such as climate change, population growth, and urbanization loom over not only SS farmers but also potential investors. Climate volatility and population growth create uncertainty in many sectors and in turn may disincentivise commercial investors or NGOs to pledge their money. However, uncertainties in the marketplace will likely continue to grow unless environmental (as well as social, cultural, economic, etc.) issues are addressed. Two realizations arise from this distinction. Firstly, now is the time to create effective, efficient, and innovative foreign aid approaches that create resiliency in the agricultural sector, given that major environmental issues are worsening. Secondly, investing in decentralized and localized systems such as subsistence farmers will improve Rwanda’s sustainability by minimizing contribution to climate-related issues. For example, these systems will have decreased reliance on transportation needed for production and sales. Transportation is not only highly expensive for these poor rural people, but also leading contributors to climate related issues.

In order to bring SS farmers out of poverty and revitalize Rwanda’s agricultural sector, effective, efficient, and innovative solutions are necessary. An option that is being underused in foreign aid efforts, and that falls under the above three criteria if developed correctly, is the adoption of online investment platforms. In recent years, crowdfunding sites have emerged that help small businesses jumpstart their efforts. Micro Investment sites such as Kiva have also emerged to try and reinvigorate entrepreneurship in developing countries and provide financial options for people with little other access. However, both of these options have flaws, whether in their ability to attract commercial investors or in their ability to contribute to sustainable development. Therefore, a online investment platform needs to be devised that

---

addresses these flaws and has viability for implementation. Rwanda is the prime location for the pilot launch of this site because of its accountable and transparent government, its dwindling aid resources, and its fragile and vulnerable agricultural sector.

The instillation of the site would be based around “bucket” or “basket” style investing. These baskets will be made out of hundreds of grouped agricultural workers based on a number of factors explained in the following paragraphs. Basket style investing solves a number of efficiency-related problems. Investors will be more compelled to invest in groups because something such as one farmer defaulting on a loan will not significantly affect the value of the investment. In addition, it simplifies the process, allowing investors to make larger and more easily tracked investments. Our organization will also be able more efficiently and effectively track loan payments and compare individual farmer’s success within their baskets.

Before the online investment platform is adopted and “baskets” are presented online, a structure and strategy must be adopted. The following structure gives an idea of the different layers of organizations and people that play a role in this project.

The following four-step pilot program, or “strategy,” paints a picture of the main steps that are required from constructing the baskets of farmers, to receiving the investment, to monitoring the success of the investment and ensuring the transfer of funds. To ensure the success of our pilot program and future initiatives, our four-step plan stresses the importance of working with locals and establishing cooperatives. Working with locals will help bridge the cultural divide and cooperatives will ensure that farmers are paying back their loans on time, pooling knowledge, and gaining greater access to markets and buyers.

<table>
<thead>
<tr>
<th>Pre-Project Analysis:</th>
<th>- Analyze an area with arable land, poor sustainability practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Department of Agriculture and Environmental Issues (comprised of both locals with regional knowledge and experts)</td>
<td>- Evaluate ground/underground water resources and average rainfall</td>
</tr>
<tr>
<td>- Economic Department (responsible for the management, transfer, and allocation of capital as well as any economic analysis needed for the farmers, site, or investees.)</td>
<td>- Analyze the topography and soil, with the specific intention of understanding the potential adverse environmental effects</td>
</tr>
<tr>
<td>- Department of Social and Cultural Awareness (comprised of locals with regional knowledge and educational experts)</td>
<td>- Choose technology or devices based on analysis and group farmers in similar area and with similar needs</td>
</tr>
<tr>
<td></td>
<td>- Economic analysis: price of proposed device, pre and post SS farmer profits (based on device, land, location in relation to markets, etc...), operation costs, and overall price of “basket”/interest rates.</td>
</tr>
<tr>
<td></td>
<td>- Evaluate: the ability to properly establish cooperatives, the potential for cultural infringement or social backlash, any conflicts in the area, the willingness to participate and relationships with surrounding farmers and markets, labor availability, existing support in</td>
</tr>
</tbody>
</table>

29

| **Design Stage:** | - All department members must be aware that the process is focused on the farmers and based upon local knowledge  
- Ensure funds are procured and economic policies in place  
- Source the correct technology or device.  
- Establish an educational/orientation model based on the chosen area  
- Create a team (comprised of educators, engineers, and members of the Department of Agriculture and Environmental Issues) based on the number of participants, the area, and technologies/devices who will focus on the “basket” of farmers.  
- The new team will create a summary of the “basket” and upload the contents online |
| **Implementation (given that the basket has been invested in):** | - Work with farmers to install system, pooling knowledge from locals  
- Facilitation of social and institutional arrangements  
- Establishment of cooperatives among farmers in the “basket”, those who have in cooperation with our educators become competent agricultural and financial leaders will serve as link to our organization and become a leader among other farmers  
- Beneficial between farmers for following reasons:  
  - second layer of leadership and monitoring  
  - encourages farmers to work hard  
  - pool knowledge  
  - pool capital for larger systems  
  - consistency and standards in market place  
  - attract business service providers  
- Beneficial between organization and farmers for the following reasons:  
  - leadership trainings  
  - group dynamic and monitoring training  
  - strategic post harvest plans  
  - easy monitoring and record keeping, tracking farmers who are exceeding and struggling within cooperative |
| **Intervention/Monitoring:** | - Team members ongoing support, and potential intervention if necessary (given that a significant shift in operations has resulted)  
- Monitoring and constant evaluation from each |
department regarding the growth of SS farms and the overall sustainability
- The goal of monitoring and intervention is to maximize the productivity, yield, and overall sustainability
- Pilot will plan to last for 3 years (ample time to evaluate full year production and make necessary changes), evaluating the growth from first to second and second to third year

After our organization has received funding from online investors, the funds will go through the specific team that has been designated that “basket” or region. In collaboration with the farmers and locals (who will work on commission based on measured results, further ensuring that they are helpful in the process), the team will purchase the technologies or devices that had been established during the “Pre-Project Analysis” stage. The farmers, with the assistance of their assigned team, as well as locals (following the implementation of the technology), will repay over an extended time the funds they were granted, with interest (the interest rate was established during the “Pre-Project Analysis” stage by the Economic Department). The initial fund plus a portion of the interest will go back to the investor. The rest of the interest will go back into our organization and help fund the salary of the team and commissioned locals.

By many, Rwanda is only known for their tragic 1994 genocide. However, Rwanda has been able to bounce back from their time of conflict into a country with many prosperous economic sectors and a stable government. The people and government of Rwanda played keys role in its development, but foreign aid initiatives were also integral roleplayers. While many sectors benefited greatly from the flow of foreign aid and remain stable today, the agricultural sector remains vulnerable, leaving much of Rwanda’s population food insecure and financially unstable. The government of Rwanda has become reliant on aid, but with everyday foreign aid sources dwindling, the agricultural sector must be revitalized. In order to revitalize the sector and fix the flaws with current foreign aid approaches, an online investment platform must be created. The investments must fund initiatives that recognize and reevaluate the problems with current programs, creating an environment where farmers can thrive and live sustainably.

The long term plans of the online investment platform are, however, greater in scope than its applications to the Rwandan agricultural sector. Given the success of the pilot program, there are four main areas of development that will maximize the potential of the platform.

- Our organization can work with NGOs and initiatives/projects in developing countries that measured results aligning with the development goals of the country. As a result, our organization would not have to direct monetary resources to the four-step pilot program. Instead, NGOs would use our site as a means to “advertise” their initiatives and garner investment to fulfill their financial needs. NGOs would need to be approved by our organization to ensure they are sound investments, contribute to the sustainable development of the country, and work within the investment models of our site. For example, The Rwanda Climate Services for Agriculture, a project focused on providing climate risk management systems for rural farmers, could use this platform to attract

---

in investors. Programs like these can be scaled up and funded more effectively and efficiently through this online investment platform.\textsuperscript{31}

- The agricultural sector is key to the development of almost all developing countries, but depending on the country, other issues could align more with their developmental goals and/or ability to meet the SDGs. Therefore, our site will plan to branch into other sectors that work well within our investment model and are desired by the country's government, NGOs, and people.

- Basket style investments are suited well for SS rural farmers, but they are potentially not suited well for other opportunities. The development of other donation/investment strategies, such as crowdfunding, will broaden the scope of choice for our investors and stand to benefit the initiatives they are supporting.

- The use of innovative online investment styles is widely underused by the private sector and humanitarian organizations like The World Bank and The Bill and Melinda Gates Foundation. Our online investment platform can be a centralized system among these types of organizations. Additionally, their adoption of this platform would immensely help the continued growth and reputation of it, incentivising more independent commercial and non-commercial investors to get involved.

Works Cited:


"RWANDA STATE OF ENVIRONMENT AND OUTLOOK." (n.d.): 1-137. UNEP. Web. 1 Aug. 2016.


