The Economic Burdens of Small Scale Hydroelectric Systems

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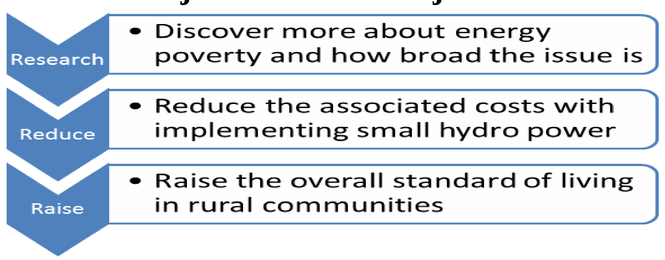
Abstract

Energy poverty is defined as a lack of access to modern energy services. Even though there are initiatives that provide innovative ways to solve this issue, such as the Global Alliance for Clean Cookstoves, these are only short term solutions. Small hydropower, although a strong and viable solution compared to other sources, has economic burdens to the communities who attempt to implement these systems.

Background

Energy poverty is a by-product of poverty itself. Clean and efficient energy is expensive, and is difficult to come by in underdeveloped or impoverished areas. This lack of access to reliable energy, combined with the other factors, is a large impediment to development in industry and therefore the economy by extension. Without economic support or access to reliable energy, the quality of life of the people that live in these areas decreases drastically in healthcare, education, and clean energy access. In order for these areas to develop further, local communities need access to affordable, efficient and reliable energy, especially in the form of electricity.

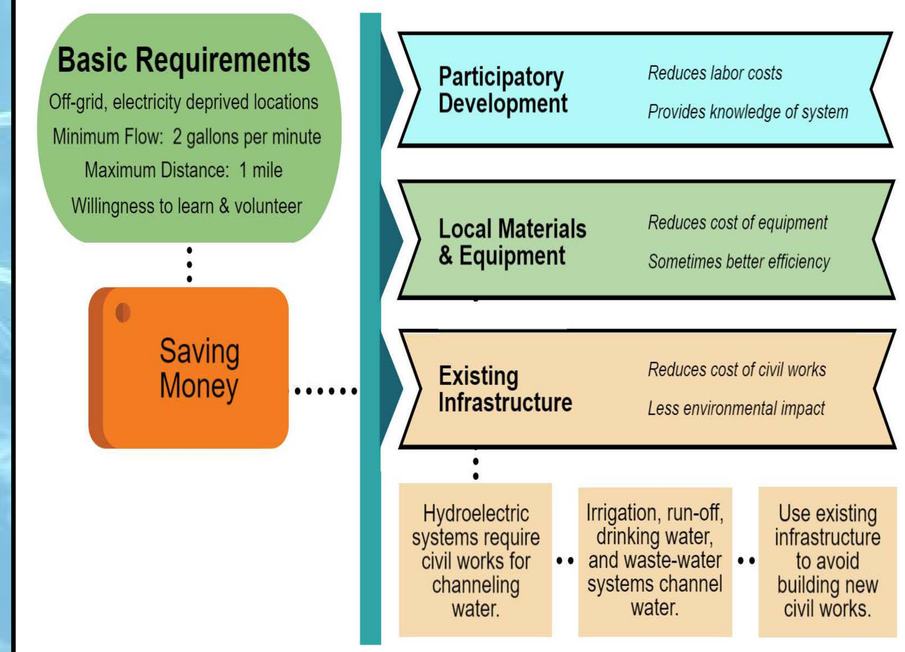
Project Goals and Objectives

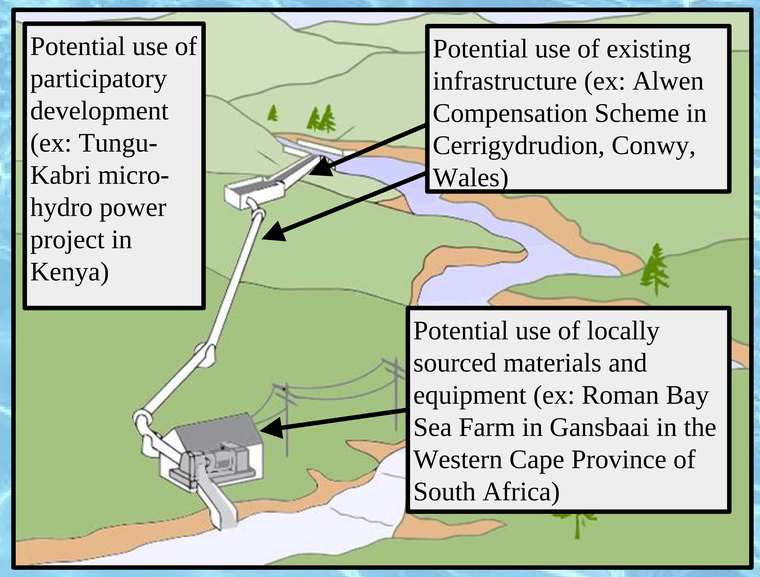


Methodology

- Researched economics of small hydroelectric projects; looking for information on past projects and for data on a wide variety of sites.
- Researched existing methods for reducing costs of the projects from technical to social areas.
- Looked for possible applications for electricity, such as improvement of cooking, heating and lighting methods.
- Developed way to present our findings; instituted a set of base requirements for the projects being assessed with our solution while focusing on only a few topics.

Results and Outcomes





Conclusion

We completed a basic prototype with a simple flow chart that focused on a few key aspects. It can be expanded upon to be even more specific. To have our desired product, we looked at specific projects along with their strengths and weaknesses. For the future, this can be used with organizations like Practical Action to provide the community with the opportunity to cut costs. Information can be organized in a multimedia form to best increase knowledge and enthusiasm to cut costs. On a larger scale, this project can help overcome energy poverty by breaking the cycle families are in through improved access to energy and decreased negative economic impacts.

References

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