**AquaFish CRSP: Mitigating the Negative Environmental Impacts of Aquaculture Practices Through Developing Sustainable Feed Technologies**

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With the rapid growth in aquaculture production worldwide, negative environmental impacts are of increasing concern. Aquaculture is associated with a range of issues including dependence on fishmeal, habitat degradation, contaminated water systems, increases in the spread of fish diseases, and the introduction of alien species. Mitigation of these adverse effects is key to developing sustainable end-user level aquaculture systems. Fish feeds are a major expense for small-scale aquaculture farms. Ingredients can be costly, particularly protein sources such as fishmeal. Other costs are attributed to feed wastage due to uneaten diets or poor feed conversion efficiency. In moving away from the dependence on fishmeal, feed research is now focusing on locally available protein sources derived from plant materials and food processing by-products. Therefore, the development of nutritionally efficient diets and optimal feeding strategies will not only reduce operating costs but also minimize environmental impacts.

Funded by the United States Agency for International Development (USAID), the Aquaculture & Fisheries Research Support Program (AquaFish CRSP) strives to enrich livelihoods and promote health through international multidisciplinary partnerships that advance science, research, education, and outreach in aquatic resources. AquaFish CRSP is currently supporting research on sustainable feed technologies, as part of a larger research portfolio. The goal of this work is to lower costs and to improve feed efficiencies while reducing the ecological footprint of fish culture. AquaFish CRSP investigations in Africa, Asia, and Latin America are exploring different sustainable feed technology approaches, including:

* Replacement of fishmeal and other costly protein sources in diets of omnivorous and carnivorous fish with protein from sustainable local sources;
* Optimizing feeding schedules to lower feed input;
* Adoption of least-cost formulation and feed manufacturing technologies to develop less expensive and more efficient feeds.