

DM2009 Project Summary

Project Number: 4311 Booth Number: 85

Saving Glaciers: Artisanal Industry Aims to Stop the Melt and Save Water

COUNTRY: Peru

ORGANIZATION: Glaciares Peru

FUNDING REQUEST: \$200,000

OBJECTIVE: To create jobs in impoverished areas by establishing a sustainable artisanal industry aimed at slowing glacial melting as a proactive adaptation to climate change. The approach, if successful, will not only save tropical glaciers from extinction, but may also be able to regrow glacial mass, the most important form of freshwater storage in the high Andes (and the world). If this approach decreases local (microclimate) temperatures sufficiently to regrow glaciers, local water supplies will be enhanced and socioeconomic benefits will follow. (Note that when freshwater stored as glacial mass melts, it constitutes the majority of available dry-season flow in the region.)

RATIONALE: Increases in global temperatures due to climate change are creating large environmental changes. One of the most serious is the melting of the world's largest freshwater reservoirs—glaciers. Tropical glaciers are the most at risk, as they are located at latitudes where small temperature changes can have large impacts, such as the loss of the only current source of reliable water supply.

INNOVATION: The project proposes to build a production facility to create a paintable white cover material. The cover material will then be applied to exposed rock surrounding the glacier, or within recently glaciated areas, in order to increase surface reflectance (albedo). This, in turn, will decrease microclimate temperatures enough to stop glacial melting and may even allow for the regrowth of glacial mass. The project also will attempt to have the change in albedo over a "unit" surface area equated with carbon credits in order to generate a sustainable source of revenue generation for future project applications.

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