

JOB DESCRIPTION – KRAVIS POST-DOCTORAL FELLOWSHIP

DEVELOPING A NEW APPROACH FOR ASSESSING AND MANAGING DATA-LIMITED, LOW GOVERNANCE FISHERIES

The Environmental Defense Fund's Oceans Program seeks a Kravis Post-doctoral Fellow (2 year term) to conduct research in support of a broad initiative aimed at improving the assessment and management of fisheries that lack sufficient data and capacity for conventional stock assessment and catch management. The vast majority of the world's fisheries fit this description: they are damaging target stocks, wildlife, and ocean habitats and are not producing nearly as much yield or profit as they could be. A new approach is urgently needed if the full potential of fisheries to alleviate poverty, enhance food security, and improve ocean ecosystem health is to be realized.

The broad research initiative is comprised of projects on the following topics:

- Data limited stock assessment: evaluating the performance of data limited methods relative to data rich assessment methods, refining existing methods, and developing new methods to greatly increase the number of fisheries that can be scientifically assessed.
- Transitioning to sustainability: because many fisheries are already depleted, reductions in catch are often necessary to restore stocks to levels that can sustain higher catch levels. This transition is alleviated in societies with social safety nets, but a new approach is required to generate revenues and alternative livelihoods where economic alternatives and social safety nets do not exist.
- Behavioral interventions to reduce illegal fishing and other decisions and behaviors that impede good fisheries management: conventionally, compliance with fishery regulations is achieved with high levels of surveillance, enforcement, and serious penalties. However, we need a new approach to improve compliance where formal accountability systems, including surveillance, enforcement and prosecutorial processes, are weak. Moreover, since fisheries management is comprised of a series of decisions and actions by a variety of actors, a detailed analysis of the factors that influence the decisions and actions that have a disproportionate impact on fishery performance may reveal ways to improve outcomes by influencing these decisions and actions.

The focus of the Kravis Post-doctoral Fellow's research will be on the development of innovative methods for evaluating the impacts of different management strategies on biomass levels, yield, revenues, and fishing costs in low data contexts, including the use of local knowledge, historical accounts, and existing scientific data. Bioeconomic models using catch data and production models have been useful in illustrating the biological and economic benefits that could be realized by restoring depleted fish stocks to biomass levels associated with Maximum Sustainable Yield. However, a new approach that can generate baseline conditions and project population recovery trajectories under different management scenarios (e.g., with

different rebuilding strategies or biomass targets) is needed to estimate these benefits in low-data fisheries lacking catch records. The Fellow will work with experienced fishery practitioners, other experts, and fishery stakeholders to gather and evaluate data and parameters for a new data limited fishery bioeconomic model with an initial focus on Myanmar but with potential expansion of the analysis to fisheries in the Philippines, Cuba, Indonesia, China, and other countries in which EDF is engaged. The Kravis Post-doctoral Fellow will also assist with trainings and workshops on data limited assessment and management in one or more of these countries.

Qualifications

- Ph.D in fisheries science, bioeconomic modeling, or related field
- Strong quantitative skills, including the ability to construct and statistically analyze ordered data sets, and bioeconomic modeling
- Data limited stock assessment
- Management Strategy Evaluation

The findings and/or tools that emerge from the research will be used by fishery practitioners deployed in several key geographies around the world who are working with governments, fishermen, and many other entities engaged in fishery management. Projections of the economic and biological benefits of fishery reform have transformed the global dialogue about fisheries management, and are motivating reform efforts. This project, by generating such projections for low data fisheries, which comprise the vast majority of the world's fisheries, will represent a significant advance in scientific understanding of these fisheries and position the Kravis Postdoctoral Fellow as a thought-leader in this important space.

Supervisor: Rod Fujita, Director of Research and Development, Oceans Program

Location: EDF's San Francisco office

Send a CV and cover letter to: fellowships@edf.org by March 31, 2017.