Demographic Trajectories, Migration and Environmental Impacts- Palawan Province, the Philippines as a Micro-Demographic Laboratory

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Abstract

A central interest in both demographic and environmental research is the trajectory of population growth and the impacts of growth on land use and settlement patterns. The challenge to fully understanding these interrelated processes is our inability to follow this process from initiation to saturation. This is because demography emerged due to concerns over contemporaneous population growth and, almost by definition; the geographical areas of interest were well advanced towards population saturation and the depletion of environmental resources.

This paper examines the case of Palawan Province in the Philippines. Palawan provides a unique opportunity to examine these processes as it was virtually uninhabited as of the 1940's. Since that time the province has seen increases that approximate exponential growth, and extensive alteration of the coastal and inland environment. This paper presents results from ongoing research into the impacts of population growth on environmental use in Palawan from the 1940's on.

Introduction

Coastal regions of the world are among our most rapidly changing human landscapes. Global climate change, population growth, market demands, and other anthropogenic impacts are degrading marine resources and regional coastal ecosystems. As the last global region still providing significant public access to usable natural resources, the rush of poverty to the coasts is

overwhelming established communities and institutions that represent traditional patterns of sustainable resource use. This phenomenon is most intense in the coastal nations of Southeast Asia, including the Philippines, which typically lack the information, infrastructure, and other resources needed to successfully manage human impacts on coastal resources.

Previous efforts to understand no less manage sustainable coastal resource development have been complicated by preexisting levels of population growth and environmental damage. Our ability to model demographic and environmental change as impacted by processes of migration, land use and settlement patterns have literally required us to reconstruct centuries of preexisting population change and exploitation strategies. Often the immediacy of current policy needs negates our ability to invest the time in systematically rebuild the joint processes of population growth and environmental change and as such our knowledge and understanding of this complex process remains incomplete.

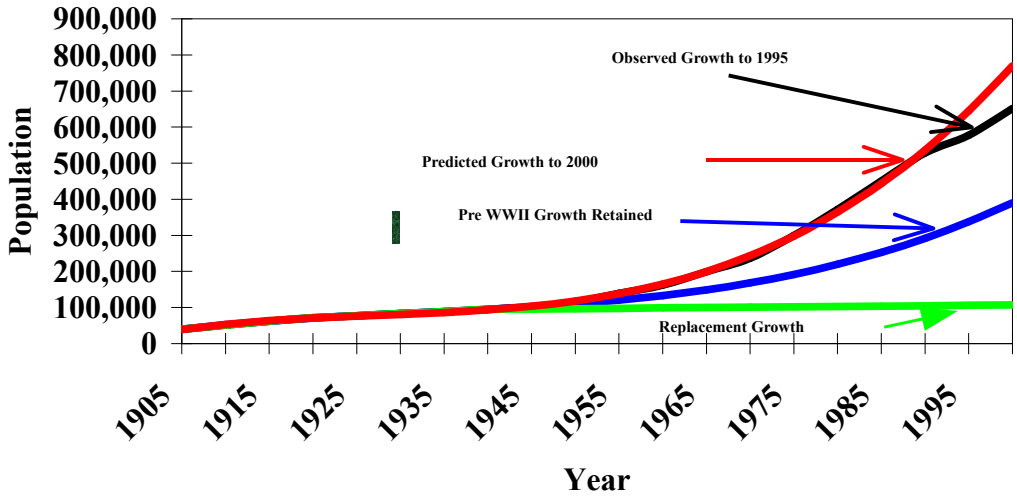
The current study of the island province of Palawan in the Philippines provides a unique opportunity to address this process in an efficient manner. Due to historic patterns of frontier migration in the Philippines combined with environmental barriers to the settlement of this province it remained largely uninhabited until after the Second World War. Consequently the process of demographic change, settlement and coastal/land use patterns are all well documented. This allows us to develop a detailed picture of the development of the population ecosystem of Palawan from initiation to its current state of near exponential growth. (Figure 1)

Description of research site

Once an isolated backwater on the margin of the Philippine state, the province of Palawan today figures prominently in the national consciousness due to its rich storehouse of natural resources and its dramatic post-War population growth. Often celebrated as the nation's "last frontier," Palawan's marine, forest, and mineral resources have to date largely escaped the

destructive process of economic development that has characterized much of the rest of the Philippines in the 20th century (Broad and Cavanagh 1993; Eder and Femandez 1996). But population has also increased dramatically in this century, from about 40,000 persons in 1905 to about 600,000 persons today, and both continuing immigration and natural increase today underlie serious forest and marine resource management dilemmas. For the moment, Palawan remains the most biodiverse island environment left in the Philippines, and it has become a focal point of conservation-oriented government and NGO programs.

Figure 1: Alternative Population Senarios for the Province of Palawan, Philippines: 1905-2000



Historically, there has been no internal regulation or control of migration within and between islands in the Philippines, making all of the nation's coastal and marine resources in effect open access. Migrants to Palawan have been drawn from throughout the nation; census data show more "mother tongue" languages present there than in any other province. But migrants from the Visayan Island region (in particular, from the islands of Bohol, Cebu, Leyte, Panay, and Sarnar) are most visibly associated with the fishing economy. Leaving behind resource depletion, poverty, and (sometimes) political unrest in the Visayas and other donor regions, migrants to Palawan's coastal zones tend to settle anywhere house sites are available; many or even most are

"squatters" on public land, typically along waterfronts. The relatively young communities that these migrants have formed consist largely of fIrst and second generation families with few previous ties to Palawan and no prior community-based environmental management traditions. Many households rely largely or even exclusively on fishing for their livelihoods, but many others combine fishing with farming, wage employment, or business ventures.

Conclusion

This paper draws upon census data, survey and ethnographic information collected by co-authors and government statistical data on coastal and land use patterns to present an overview of the development of Palwan from the 1940's until the present time. Building upon ongoing research by the authors on the interrelationships of population and the environment in this area the paper will present a rare look at how an ecosystem evolves in response to Pretransitional population growth patterns.