Researchers suggest conformity pressure and desire to keep-up is pushing unsustainable population growth

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(Phys.org) —Partha Dasgupta an economist with the University of Cambridge and Paul Ehrlich, a conservation biologist at Stanford University have published a paper in the journal *Science* in which they suggest that peer pressure and a desire to keep up with others can lead to unsustainable population growth. They use data from several sources to compare population growth rates between people in African—where population growth is exploding in some areas—with others where it is not, to show that when people experience peer pressure to have large families and also feel pressure to keep up with the consumption habits of other people where they live, the result can be explosive population growth.

The two researchers note that in many parts of Africa, current growth rates mean a likely doubling of the population by 2050—they add that increased consumption rates by the same people is leading to unsustainable growth patterns due to limited environmental resources. Peer pressure among men to produce as many children as possible (due to historical land tenure issues) they assert, has led to a very high fosterage rate, while the burden of supporting children continues to fall primarily on women. At the same time, they found that despite living on just an average of 1200 international dollars a year, consumption rates in the same areas have been climbing for several years. Taken all together, they say, it makes for an environment full of externalities that promote fertility.

Scientists have not been able to agree on how many people our planet can sustain. Some suggest we are already on a population curve that will lead to war, disease and general misery. Others contend that innovations and discoveries will lead to higher food yields and other technologies to shelter clothe and provide for the needs of an ever growing number of people. No one is suggesting that there is no limit to how many people can live here on Earth, it's a question of how many can live here at what level. The pessimistic view is that nature will provide the corrections for us, while those with a more optimistic outlook suggest that technology and education will lead us to curbing our growth by managing our birthrate intelligently.

Dasgupta and Ehrlich argue that their research shows that circumstances in some parts of the world are leading to a situation that is unsustainable—it won't self correct and unless something changes such systems will collapse. They suggest that an education program for women (by people at both the global and local level) be instituted to break the pattern of fertility encouragement—it's been shown to be effective in other parts of the world.

More information: Pervasive Externalities at the Population, Consumption, and Environment Nexus, *Science* 19 April 2013: Vol. 340 no. 6130 pp. 324-328 DOI: 10.1126/science.1224664

ABSTRACT
Growing concerns that contemporary patterns of economic development are unsustainable have given rise to an extensive empirical literature on population growth, consumption increases, and our growing use of nature's products and services. However, far less has been done to reach a theoretical understanding of the socio-ecological processes at work at the population-consumption-environment nexus. In this Research Article, we highlight the ubiquity of externalities (which are the unaccounted for consequences for others, including future people) of

decisions made by each of us on reproduction, consumption, and the use of our natural environment. Externalities, of which the "tragedy of the commons" remains the most widely discussed illustration, are a cause of inefficiency in the allocation of resources across space, time, and contingencies; in many situations, externalities accentuate inequity as well. Here, we identify and classify externalities in consumption and reproductive decisions and use of the natural environment so as to construct a unified theoretical framework for the study of data drawn from the nexus. We show that externalities at the nexus are not self-correcting in the marketplace. We also show that fundamental nonlinearities, built into several categories of externalities, amplify the socio-ecological processes operating at the nexus. Eliminating the externalities would, therefore, require urgent collective action at both local and global levels.