

#MeetTopEnvEcon – Partha Dasgupta

Partha Dasgupta

Current position: Frank Ramsey Professor Emeritus of Economics, University of Cambridge

Year of birth: 1942

Homepage:

<http://www.econ.cam.ac.uk/people/crsid.html?crsid=pd10000&group=emeritus>



It is my great honor to present Partha Dasgupta in the #MeetTopEnvEcon series. I had previously met Partha only briefly at various conferences, and thus it was a pleasure to talk to him more extensively during the [Climate Ethics and Climate Economics: Discounting the Future](#) conference in Oxford this year. Once you discuss with him you easily understand why it was he who pioneered the nexus on environment, development and economics; his works with Geoffrey Heal on the optimal extraction of non-renewables are the foundation stone for any resource economist these days; together with the likes of Kenneth Arrow he urges governments to cease regarding GDP as a measure of prosperity to more holistic measures like inclusive wealth; and he is one of only a handful of economists who dares to address the problem of the optimal population size.

During the years, Partha published more than 270 scientific articles and books like [An Inquiry into Well-Being and Destitution](#), [Economic Theory and Exhaustible Resources](#), or the beautiful little [Economics: A Very Short Introduction](#). For these contributions he was awarded a wealth of honors and awards, from several honorary doctor titles over to fellowships in the most prestigious societies, and was furthermore bestowed the knighthood by Queen Elizabeth II in 2002. These honors are clearly well-deserved.

One meets few people in life that quickly leave a lasting impression, and I feel that Partha is one of them. Not only because of his vast knowledge that he readily shares and his quick wit, but also because of his character. I have found him to be extremely kind, modest and down-to-earth, which tend to be character traits that too often disappear quickly in most people that reach Partha's standing. Not so with Partha, which makes it that much more enjoyable to discuss with him.

Finally, I would like to deeply thank Partha for investing such an extensive amount of time on the interview. I hope the readers will appreciate the insights gained here.

1. **Could you please give me a brief background of yourself and your main research interests.**

Because my undergraduate degrees were in mathematics and physics, I have never attended bread-and-butter economics courses. I do have a PhD in economics. But I was anxious to obtain the degree quickly – I would have been unemployable without one – I knew little-to-no economics when I obtained my degree. My dissertation was on technical problems. I don't want to belittle my dissertation; it is simply that I didn't have much knowledge of economics when I started teaching three years later. And I think that showed. It may be a reason I have periodically moved across fields.

One field that has interested me consistently is environmental and resource economics, but over the years I also worked on dynamical systems, industrial competition, R&D, taxation, nutrition and poverty, and population. I moved fields partly to learn economics. Even now I don't have a strong background in economics. I lack a basic economics training. The other reason I have moved fields within and outside economics is that I wanted to explore the relationships people have with one another and with nature. That has required of me to borrow from other disciplines. So for example I have learnt ecology at a fairly professional level. And I have been able to do that because over the years I have enjoyed the privilege of being taught the subject by colleagues and friends, such as Paul Ehrlich. I have always felt poverty, especially deep poverty in Africa and Asia, cannot be understood unless we try first to understand how people in poor societies live. Poor communities live directly on nature. We moderns live on nature at a few steps removed. To understand poverty you need a battery of techniques and an appreciation of the findings of anthropologists and ecologists. Most development economists ignore both.

What article/book of yours would you call your best?

There are two books of which I am most proud. One is the 1993 book [An Inquiry into Well-Being and Destitution](#). In that book I was trying to compete with the best classical economists – Malthus and Smith. That sounds like conceit, and it probably is. But I wanted to have a conversation with those gentlemen.

You were a bit provocative as well with the title?

Yes, more than a bit: the title was a give-away. I had read little of either Malthus or Smith, their concerns were filtered to me from my father's writings, but I felt they were addressing the most significant problems of their time and had put forward a coherent vision of the economic processes that were shaping people's lives. I adopted their motivation. But because I am a micro-economist by training (I still don't understand macroeconomics), I had to build my account of destitution and well-being from the ground level, which is the household.

The book was also very personal. It was an extended letter to my father. He was dying when I was composing the book, and my book was my side of the conversation he and I had been having since my boyhood. The other book is my [Very Short Introduction to Economics](#). It was meant for the general public, so it's easy to be led to think there is nothing original in it, but I like to think there was originality in the way economic analysis was framed in the book. You won't find that reflected in any contemporary textbook. Economics is a wonderful and illuminating subject. You and I are fortunate to be economists. I wanted to present readers with a vision of the subject that would excite them.

1. Would you mind giving a list of essential articles that a young researcher in your line of research should read?

Not many economists have written on the population-environment-development nexus. That nexus defined the theme of my 1993 book. Paul Ehrlich and I published a piece in 2013 in *Science*, on pervasive externalities in the nexus. I like that paper and would recommend it as

an entry to the theme. People have written extensively on population, on living standards, and the environment, but the nexus itself has not been studied much.

Paul Ehrlich and John Holdren's 1971 paper in *Science*, the "Impact of Population Growth", in which they introduced their IPAT equation, is another work I would recommend. Students in economics should be encouraged to read it because the authors pointed to a deep truth about human-nature interactions even while doing so on the basis of a meaningless equation!

Some of the best papers I have read on the subject have been by anthropologists and demographers. John and Pat Caldwell published a fine paper in *Scientific American* in 1990 called "High Fertility in sub-Saharan Africa". That directed me to think about a number of issues I would probably have missed otherwise. If we are to make any dent in our understanding of the nexus, we need to work with people in those allied disciplines. I like to think I have made some progress in understanding the processes that shape the nexus. I wrote the *Very Short Introduction to Economics* with a view to bringing that understanding to the general reader. There is a lot more to the way we live and die than engagement in markets.

And could you be so kind and give a reference for a policy-oriented article or book that sums the research in your field for an interested policy maker?

The then Prime Minister of India, Dr. Manmohan Singh, convened an Expert Group in 2011 with the task of preparing a report on ways to revise India's national accounts so as to include environmental resources. I was invited to chair the Group. I assume I was approached because a great deal of my work in recent years has been to develop the framework for preparing wealth accounts as opposed to income accounts. People call the measure we should be seeking inclusive wealth because wealth includes, among other assets, natural capital. The report was submitted to Dr Singh in April 2013 and is gradually being implemented at the Central Government's Statistical Office. I prepared the analytical sections in the form of an academic piece, and it contains a 20-page Summary, which lays out the structure. The report is available on the [Statistical Office's website](#).

1. In what direction would you like to see environmental economics develop? What would be the obstacles?

Environmental and resource economics, or ecological economics if you like, is in a lot better shape today than it was as recently as year 2000. There is a young generation of economists who have extended the subject's reach and are continuing to extend it in directions that include economic development and poverty. In earlier years I felt like an outsider. The direction I took in the field – analysing the nexus – was orthogonal to the central tendency in environmental and resource economics. Valuation of environmental amenities was a dominant exercise in the US, as was energy policy and variations on Ramsey's account of social discount rates. Those are important topics, no doubt about that, but the subject missed making a connection with poverty in the world's poorest regions and the genuine options they have for moving out of poverty.

I also found the partial equilibrium nature of valuation exercises unsatisfying. Meanwhile in Africa and South Asia local ecosystems were known to be crashing and their populations exploding; anthropologists and NGOs confirmed that. There was little connection between official environmental and resource economics and experiences in the world's poorest countries. Many resources don't have a market price, not because they are public consumption goods but because they are common property production goods (water, forest products,

grazing land). In rural parts of poor countries transactions in them are rarely through the market. So I explored the strengths and weaknesses of rural institutions in poor countries.

The emphasis in the US on valuation exercises (travel cost, CVM) had an unfortunate side effect. It emboldened politicians in poor countries to claim that economic development has priority over environmental concerns. It enabled politicians, say in Africa, to assert confidently that the environment is a rich nation's problem; that their own priority is economic growth, even if that growth comes at the expense of environmental resources at the local level. Lord knows how many lives among the voiceless have been destroyed with that excuse. The World Bank in its 1992 World Development Report went so far as to construct an Environmental Kuznets Curve as a metaphor for the link between environment and development. It's a dreadful episode in intellectual history. Unfortunately growth economists continue to hold that viewpoint. You still don't see the processes driving the population-environment-development nexus in growth and development models.

What do you think was the driving factor for the change that we saw in environmental economics?

It was probably the emergence of a new generation of economists interested in environment and development. Some came equipped with knowledge of ecology. In the early 1990s the Beijer Institute of Ecological Economics at Stockholm brought economists and ecologists together. That group saw much of the value of nature in terms of its contribution to production (pollination, decomposition, water purification, carbon capture, and so on). Because the group was composed of such figures as Arrow, Solow, Lindbeck, and Maler from economics and Ehrlich, Levin, Carpenter, Folke, and Lubchenco from ecology (I am talking of the 1990s; the current body consists of a new roster of stars), economists could now work with ecologists without feeling embarrassed. There was something hard-boiled about the environment and resource economics of the 1970s and '80s, which fortunately it has been weaned out of.

Whatever the reason, the subject is now in a much more healthy state. At the annual meetings of the European Association for Environmental and Resource Economists there are now sessions on growth and development economics and on poverty and the environment. Moreover, Asian and African scholars based in their home countries are contributing to the literature now. Unlike theoretical physics, or molecular biology, ecological economics is a site-specific subject. No two grasslands are the same. So a scholar in Ethiopia, even though she may not be as well trained as her American counterpart, will know something about the local ecology and the social institutions and practices in Ethiopia that the American scholar doesn't know of, simply because he doesn't live in Ethiopia. Because theoretical physics is the same everywhere, the Ethiopian physicist has no advantages over her American counterpart. This is an important truth. It means we would expect African and Asian scholars to make significant contributions to our understanding of the nexus if the West were to invest in training young people there. And remember, the investment outlays would be small beer compared to what western governments spend on, you name it.

Let me elaborate on that if I may. My friend Karl-Göran Mäler and I helped to establish a network of environmental and development economists in South Asia. SANDEE (South Asian Network of Development and Environmental Economists) is 15 years old and has established itself as an intellectual force to reckon with. It covers Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. Can you imagine any other sphere of activity where you could get people from that politically hot-house of a sub-continent to live, learn and discuss vitally important matters together over periods that are as long as 2-3 weeks; even

collaborating on joint projects? But they do so routinely, under the intellectual guidance of a group of young professors based in the US and South Asia. Mentors give their time for a pittance, SANDEE's budget is tight. The social return on that investment has been enormous. SANDEE members, based in local universities and research institutes – they are not confined to the Metropolises – have produced remarkable papers. They have published in the Cambridge University Press journal, *Environment and Development Economics*; and in edited volumes, published by OUP and CUP. It's sad though that so far SANDEE has been funded exclusively by Western donors. We have not been successful in attracting governments in South Asia to take even the slightest interest in investing in what is as socially worthwhile a venture as there can be.

Returning to your original question, deficiencies in environmental economics in the 1980s were due mostly to a lack of imagination on the part of practitioners. Environmental economics has a far greater reach than was then understood by the leaders of the subject. The imperatives of funding may have had something to do with that. The US government's EPA drove a lot of the research in the United States. Concerning whether environmental and resource economists should prioritize theory or empirics, obviously there should be a balance between the two. I think we have the balance right, but I am not a good judge; I am not an empirical economist.

As to future developments, I would like to see a lot more work done on the nexus, which continues to be ignored. Population remains taboo. Meanwhile the world is heading toward 10 billion people by mid-century and people everywhere, understandably, are hoping, indeed expecting, to enjoy a standard of living of a middle-income country. But the numbers don't add up if the intention is to reach and maintain that goal. There is an upper bound to the services the Earth system can provide, and we are currently degrading and depleting the stock of natural capital. Global climate change is one evidence of that, biodiversity loss is another; contamination of the oceans is a third. There are also tons of case studies identifying the loss of productivity of specific ecosystems: fisheries, grasslands, wetlands, coral reefs, you name it. We economists should be informed by them, but we choose not to be informed.

Growth models continue to be built on the presumption that technological progress can be depended upon to overcome Earth's constraints on an indefinite basis. We are free to conjure up any model we like – indefinite substitution possibilities between human and manufactured capital on the one hand and natural capital on the other – but creating a world view on so vital an issue on the basis of an experience that is not much more than 250 years old (economic betterment since the Industrial Revolution) and by ignoring truths about the workings of the natural system is indefensible: there is too much evidence out there that Earth is overburdened by the demand we make of it.

That world view has also influenced the design of the UN's Sustainable Development Goals. The goals are most laudable, but they contain nothing on population excepting indirectly via the goal of attaining gender equality. Few have asked whether the SDGs are likely to be sustainable. The Earth system responds to the absolute demands we make of it, not to rates of changes in those demands. Demographers have fallen prey to that same misunderstanding. They heave a sigh of relief every time a dip in the rate of growth of population is detected; and the media report it as a good tidings. But second derivatives are of no use. Even if we stabilize at 10 billion we will be in trouble unless we lower our per capita demand on the Earth system.

As you know, in a paper I prepared recently (and thank you for your enormously helpful comments) I used crude estimates of the rate at which humanity is currently leaving its ecological footprint and calculated that if, say, our goal were to aim at a living standard of 20,000 dollars a year on a sustainable basis, world population would have to be no more than 3.5 billion. We are currently over 7.2 billion in number, but were 3.5 billion in number only the other day, in the early 1970s. Why should we think 3.5 billion is now unthinkable? Such estimates of course have a wide margin of error, but that's in part because only very few people have worked on the nexus. That brings me back to your previous questions about the practice of environmental and resource economics. Even today macro economists shy away from studying the pervasive externalities at the nexus that has led us to where we are today. That's depressing.

1. If you had to give young researchers in environmental economics some advice, what would it be?

Start at the nexus; then specialize out of it. The starting point is important. It creates the chance that the scholar will stumble across something of significance to study. If you start somewhere outside the nexus you could miss that chance. Students very often get their initial ideas from their PhD supervisor. That's a source of history dependence in the evolution of ideas. Because the nexus has been in large measure ignored, the young researcher will not come to it in the normal course of events; it won't be on the regular agenda. I'm not suggesting everyone should work on the nexus, only that the nexus is where you find a terrific departure point for coming across profound social problems. Scholars interested in entering environmental and resource economics could do well to read one of several available technical books on ecology. You won't find that material in ECON101, but ecology forces you away from convex sets and to focus instead on a study of non-linear processes.

5. How do you mostly get your ideas?

Conversation and observation, I would guess. One of the best research programs I have been involved in began, for me, with a simple observation. I was on a trip to see my parents in India. While walking the streets of Kolkata, I saw a beggar woman, sitting on the pavement with an infant. The child lay next to her, motionless and expressionless. The infant's face was covered with flies, but it didn't protest. I wondered why it didn't swat them. In time I realized that the infant didn't have the energy to do so. She was conservation energy. A few months later, when visiting Stanford I narrated the incident to a brilliant young economist, Debraj Raj, now at NYU. He had been thinking along similar lines and had been teaching students to view underdevelopment at least in part through malnutrition.

The consumer in economics textbooks is assumed to be in a healthy state. Health economics studies the costs and benefits of maintaining good health (human capital is seen largely as education and skills). But if you dispense with that assumption, you face a quandary: someone's income depends on their health status and their health status is a function of their income. So there is a loop to be analysed and we should not suppose in advance that a healthy state is the only social equilibrium. Debraj and I worked on that problem and discovered a connection between inequality and poverty.

Not all my research is observation-based, many of the purely theoretical papers I have worked on have emerged out of conversations. Over the decades Joe Stiglitz, and subsequently Eric Maskin, and I have written papers together; mostly they were a result of studying puzzles and

unresolved issues. Many were deep problems and I like to think we made a dent on them. But the problems that have occupied me in recent years have come basically from observation.

6. Are you more interested in fundamental research or do you try to shape actual policy through your research? Which impact would you say does your research have on policy making? And how do you think environmental economists could increase their say in the policy agendas?

To the first part of the question, the answer is very much the first. I am a theoretical economist. Paradoxically, perhaps, the older I have become the more I have come to value pure theory. My taste has been the academic life, that's the life I have always led. I would far prefer to spend time with Bob Solow than a prime minister or president. That's not to show disrespect to either prime ministers or presidents, but I wouldn't know what to say to them. I have had no interest in public office, for example, as economic advisor to governments or international institutions.

On issues concerning the environment however I have over time become something of an agitator. Increasingly I have assumed the role of a spokes-person for a particular style of economics. That probably comes with the ageing process!

Turning to your other questions, my research may have had some impact on environmental and resource economics. But it's easy to be biased; we all tend to take ourselves too seriously. Mostly though I feel I have had no influence. For example look inside the World Bank. The chief economist's office has a substantial staff, but no one there has the slightest interest in the nexus. In fact the Bank overall isn't remotely interested in the population-environment-poverty nexus, even though it produces interminable studies on the incidence and magnitude of poverty. That's scandalous; I mean what insight do you gain to be told that there are 700 million that go hungry, not 680 million? There can be too much of anything, and I am afraid fine tuning estimates of poverty and inequality are one such instance.

The only occasion I contributed to government deliberations was one I mentioned earlier. It was when in 2011 the prime minister of India convened an Expert Group to prepare a report on "greening" the country's national accounts. I was invited to chair the Group. The Report was submitted in 2013. It recommended the inclusion of inclusive wealth accounts. The Group's Member Secretary was the Head of the Government's Statistical Office, an extremely able person. He guided my understanding of what would be possible to achieve by way of a revision of India's national accounts in 2 years, 5 years, 10 years; and I included a section to explain why some desirable changes can never be achieved.

Turning now to your question of how environmental economists could influence policy, I have a feeling that's already happening. But my guess is the influence is limited, in part because environmental and resource economists are a neglected minority within the economics profession. I don't know many economics departments that have more than one, and many don't have any. One problem ecological economists, more broadly environmental and resource economists, face is publication in journals that are rated outstanding by the profession at large. We are so wedded to the notion of the top five or ten journals that it stultifies research.

Some years ago Paul Ehrlich discovered that over the previous 10 years or so the top 40 economics journals hadn't published an article with a title in which the name of an

environmental resource appeared (water, biodiversity, and so on). Our joint paper of 2013 on the nexus appeared in Science. It would have been insane to submit it to an economics journal. It would have been rejected unceremoniously.

Journals that are regarded as gold standard by the profession influence the direction of research. That in turn influences the composition of economics departments. There has been no environmental and resource economist in the Economics Faculty at Cambridge since my retirement. There's mutual feedback in the process of course. No one seems to be interested in breaking the cycle. It may be that no serious economic department wants to make a leap unilaterally and appoint environmental and resource economists. There is the fear their reputation would flag. The profession is at a bad Nash equilibrium.

Departments routinely advertise that their faculty publish in the top ten journals. But here's the thing. Some years ago I searched through 25 of volumes of Readings in economics Edward Elgar had published over the years. My idea was to determine what percentage of the reprinted articles in those volumes had been published originally in the top 10 journals. It turned out to be rather small. The top 10, even the top 15, are excellent journal. But they publish the best papers on subjects the profession currently regards as hot. There is no guarantee the papers have enduring value. My guess is that field journals are where you will find the greatest originality.

7. And now for a bit of fun. Do you know the concept of holidays or do you take your papers to the beach?

I do enjoy vacations. From the very beginning of our marriage Carol was firm that we have breaks. I rarely attended conferences, so when our children were growing our holidays were confined to 2-3 weeks in the summer and a week in Easter. I would take some work on each occasion, but I would be rationed by Carol and the children. Maybe 2 hours a day, if that, and not every day.

8. What is your favourite economics joke or anecdote from a conference?

Ah, gosh, I am no good as a raconteur.

9. Please feel free to suggest someone else whose answers you would like to see.

Well I suppose it would be people I admire most and think would respond to your questions engagingly. There are so many to choose from. Ken Arrow and Bob Solow would be perfect. Paul Ehrlich is another. Like Bob he doesn't dither when commenting on things or explaining his ideas. Among environmental economists William Nordhaus would be interesting to read. He has tried hard to understand the economics of climate change.