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CSUSB Intellectual Life Fund Presentation: "Making Nature Count through Inclusive Wealth Measurement"

Pushpam Kumar

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CSUSB Intellectual Life Fund Presentation

"Making Nature Count through Inclusive Wealth Measurement" by Dr. Pushpam Kumar (May 28, 2021)

START – 00:00:00

Mahmood Nikbakhtzadeh: Hello everyone good morning I go by you hear me well, this is Dr. Nikbakhtzadeh from California State University San Bernardino's Department of Health Science and Human Ecology.

Mahmood Nikbakhtzadeh: We have series of talks within the Intellectual Life Fund program at Cal State San Bernardino and it's a pleasure for me to open up the session today as we have honored guest from the United Nations Environment Program, Dr. Pushpam Kumar and he's going to tell us more about the relationship between nature and environment aspects, but before I go to that I'd like to ask Dr. Webber who is the head of the Intellectual Life Fund at Cal State Bernardino. Dr. Webber can you please tell us a little bit more and continue the program.

Clare Weber: Good morning, or good afternoon or good evening depending on where you are right now.

Clare Weber: The CSUSB Intellectual Life Fund supports faculty efforts to enhance the intellectual vitality of the university.

Clare Weber: By bringing distinguished guest presenters to campus it supports presentations in two major categories talk lecture and performance demonstration and.

Clare Weber: It has been a very successful long-standing program, but I must admit I think today is one of our most distinguished guests ever so thank you.

Clare Weber: Next I'd like to introduce President Tomas Morales of Cal State University San Bernardino.

Clare Weber: Tomas Morales was selected as the fourth President at Cal State University San Bernardino.

Clare Weber: Previously, President Morales was President of the College of Staten Island, the City University of New York since .

Clare Weber: he's been a staunch advocate of the university's commitment to student success his champion the importance of access to higher education and preparing people for collegiate success throughout his extensive career as a dedicated educational leader, President Morales

Dr. Tomas Morales: Thank you, welcome everyone to Cal State San Bernardino for the talk "Making Nature Count through Inclusive Wealth Measurement"

Dr. Tomas Morales: We are honored to have Dr. Pushpam Kumar joining us today, he is the United Nations Environment Program Chief Environment Economists and Senior Economic Advisor.

Dr. Tomas Morales: Funding for today's talk is through CSUSB's Intellectual Life Fund, the fund is designed to enhance the university's intellectual vitality.

Dr. Tomas Morales: By bringing in campus presenters such as professors, artists, policymakers, professionals, public servants, and diplomats who have something unique and important to offer to see CSUSB students, faculty, and staff.

Dr. Tomas Morales: As our planets rising temperatures are showing us how we interact with our environment is an essential issue for us as humans, let alone other animal species.

Dr. Tomas Morales: Without further protections that continued destruction of our planet will impact future generations, for example, we are having a day, as you.

Dr. Tomas Morales: there's a vu moment in California right now that reaches back to Rachel Carson's classic Silent Spring, which was a seminal point in environmental awareness in the United States.

Dr. Tomas Morales: And that is the rediscovery in the last year, at least , barrels of DDT off the coast of California.

Dr. Tomas Morales: Senator Dianne Feinstein stated in April, possibly hundreds of thousands of barrels and DDT laced sentiment with dumped just miles off our coast.

Dr. Tomas Morales: And here in the inland empire San Bernardino has the worst ozone levels of any county in the nation.

Dr. Tomas Morales: This is the downside of the increasing success of our region as a transportation hub because success translates into increased numbers of diesel trucks in free transport.

Dr. Tomas Morales: which results in increased pollution, while there is a role that corporations can play as small as nation states in addressing our current climate situation, there are always things that we can do individually.

Dr. Tomas Morales: Particularly a democracy where we, the people are the government, each of us plays a role in this effort, a prosperous nation is not simply the nation.

Dr. Tomas Morales: With the largest gross domestic product of the highest levels of monetary well a prosperous nation is one cares about.

Dr. Tomas Morales: Quality of life and includes caring about their environment and natural assets my fans to Dr. Mahmoud the vector day.

Dr. Tomas Morales: assistant Professor environmental health science in the Department of Health science and human ecology for organizing today's event, and thank you all once again for coming I hope you will enjoy will be informative and vital session.

Mahmood Nikbakhtzadeh: Thank you very much, President Morales, we appreciate your presence today, despite having a very busy schedule and thank you, Dr. Webber.

Mahmood Nikbakhtzadeh: So that's my pleasure right now to introduce our guest speaker today, Dr. Pushpam Kumar as President morale is.

Mahmood Nikbakhtzadeh: already mentioned is the United Nations Environment program or you end up chief environmental economist and senior economic advisor Dr. Kumar leads work and response to.

Mahmood Nikbakhtzadeh: pollution and human capital nature based solutions inclusive wells sustainable development goals and nature human development nexus.

Mahmood Nikbakhtzadeh: he's made a key figure in designing implementing and providing leadership to the operational.

Mahmood Nikbakhtzadeh: upper operationalization of concept natural capital and it's mainstreaming into job elopement design and policy.

Mahmood Nikbakhtzadeh: Dr. Kumar has a PhD in environmental ecological economics and was with the University of Liverpool United Kingdom and university of Dr. hate between as a professor in environmental economist.

Mahmood Nikbakhtzadeh: He holds the position of honorary research scientist at the earth Institute of Columbia University in New York and is a distinguished professor at the University of Pretoria South Africa.

Mahmood Nikbakhtzadeh: he's one of the global experts of the Masters Academy of the TAO group Shanghai China and he taught in India United Kingdom United States and regularly conducts training programs in economists of nature for senior policymaker.

Mahmood Nikbakhtzadeh: Dr. Kumar has been elected member of the board of international society of ecological economics Indian society for ecological economics and European society.

Mahmood Nikbakhtzadeh: For ecological economics as a professor of environmental economics, Dr. Kumar has published in leading journals such a science by science Lancet planetary health.

Mahmood Nikbakhtzadeh: Nature sustainability and wider mental health perspective and ecological economics he's up at amp years in influentials forums, including state of the planet.

Mahmood Nikbakhtzadeh: earth Institute of New York and Ward Economic Forum in Davos, Switzerland, so I don't want to go further because he's achievement and

resumes much longer than this, that we can express it in this brief introduction so without saying much i'm going to.

Mahmood Nikbakhtzadeh: Once again welcome Dr. Kumar and asked him to begin his speech, thank you, Dr. Kumar for accepting our invitation.

Dr. Pushpam Kumar: Thank you, Dr. Nick.

Dr. Pushpam Kumar: Back job day and also thanks to Dr. Morales and Clare.

Dr. Pushpam Kumar: The Dean, and really, really happy and delighted to be here with you all, I always feel excited excited when I come to the university campus.

Dr. Pushpam Kumar: and give the you know the opportunity to talk to is to the ins and the researchers and the related in our stakeholders so thanks for having me today.

Dr. Pushpam Kumar: The team which we aggregate to talk about is making nature count.

Dr. Pushpam Kumar: Why why niches to be recounted and where is the need to do that if you see the.

Dr. Pushpam Kumar: Economic you know, development and growth of last hundred years, I mean one can go in the past as well, but no point we can always drive the point with a simple example that says that is of anthropocene that is.

Dr. Pushpam Kumar: Just after World War Two.

Dr. Pushpam Kumar: If you see the growth and pattern of economic development.

Dr. Pushpam Kumar: We have achieved a lot in last years the output, the material world has multiplied by times.

Dr. Pushpam Kumar: And the population has gone by three times.

Dr. Pushpam Kumar: basically per capita growth has multiplied five times.

Dr. Pushpam Kumar: And that is a remarkable achievement if for the recorded history.

Dr. Pushpam Kumar: Of, it is good, but what has happened that if you see the biophysical science part, that is, I always call it three planetary crisis or climate change and the nature of that is biodiversity and pollution we have really.

Dr. Pushpam Kumar: done very, very bad on that three bananas required with your guys's yardstick.

Dr. Pushpam Kumar: let's start with biodiversity, there are various estimates, I will just give you some.

Dr. Pushpam Kumar: Basic example to illustrate the point million expresses on our under risk of extinction, as per intergovernmental platform on biodiversity and ecosystem services, the IDB yes, it is just like IPCC the formal one mentor you know process so million expertise.

Dr. Pushpam Kumar: Since .

Dr. Pushpam Kumar: The wildlife has become half.

Dr. Pushpam Kumar: If you talk about mangroves.

Dr. Pushpam Kumar: It has been % manual has been lost in last years.

Dr. Pushpam Kumar: One can no one can talk about the top swan.

Dr. Pushpam Kumar: Which which is now % globally degraded and most of them are in Amazonia sub Saharan Africa and southeast part of Western China to.

Dr. Pushpam Kumar: and, similarly, the groundwater the surface water, many the coast, they have been polluted, that is, all the time they.

Dr. Pushpam Kumar: Still, adding some will then by , we will have more plastics in the ocean.

Dr. Pushpam Kumar: than the fish.

Dr. Pushpam Kumar: Are bioremediation the seabed carbon or coral bleaching one can go on and that is not good let's come to the pollution.

Dr. Pushpam Kumar: It is true that in last years the water pollution has declined globally but a pollution sources specific air pollution has gone out, and that is the region that every year, we are losing five to million people.

Dr. Pushpam Kumar: And there is a premature death of around million people, as per the DVD come, you know studies similarly you go to climate change, and it is.

Dr. Pushpam Kumar: i'm bringing climate change as the third because of climate change is taught everywhere, nowadays, I mean in we have crossed the one degrees, I mean in the temperature virus was more than one degree Celsius if you compare with the pre industrial.

Dr. Pushpam Kumar: You know the temperature and.

Dr. Pushpam Kumar: If the target is to achieve . degrees Celsius we are nowhere near the target as far as the Ad grid or the consensus which we must, from Paris agreement in .

Dr. Pushpam Kumar: And if we want to achieve.

Dr. Pushpam Kumar: let's say . degrees Celsius rise by That means that we have to reduce emissions annually by % every year %.

Dr. Pushpam Kumar: No estimate suggest that this is going to happen now, the person is somebody can ask what is today in there, oh why we should be bothered about.

Dr. Pushpam Kumar: There are various estimates scientific studies international panel, indeed, he will conduct a specific study.

Dr. Tomas Morales: Is.

Dr. Pushpam Kumar: That humans are.

Dr. Pushpam Kumar: embedded in nature and biosphere most of our.

Dr. Pushpam Kumar: food, water, clothing, entertainment recreation, they come from nature, directly or indirectly.

Dr. Pushpam Kumar: That is a foreign countries take the example of food % food come from the land.

Dr. Pushpam Kumar: And landmines six to eight inches topsoil.

Dr. Pushpam Kumar: So that is under serious strict, so what by citing this example that we per capita growth has gone up by five times, why we have failed on nature slash biodiversity, climate and pollution, it means that there is something wrong somewhere, which we are not, we are not able to capture.

Dr. Pushpam Kumar: know just in the morning.

Dr. Pushpam Kumar: unit, launched in nature, finances.

Dr. Pushpam Kumar: That report says that if we really want to divert.

Dr. Pushpam Kumar: damage to nature console pollution and manage climate by .

Dr. Pushpam Kumar: From now until , we need to invest \$ trillion \$ trillion, that means every year, we need to invest around \$ billion.

Dr. Pushpam Kumar: Right now, the actual investment in this three portfolio is it on hundred plus billion every year, so there is a short is minus one Ada you can see how much is the balance which we need now, one more thing in this billion annually, which is happening right now.

Dr. Pushpam Kumar: % is from public sector or the government public money risk % is from the private sector.

Dr. Pushpam Kumar: If anywhere, we want to bridge the gap or meet this minus \$ billion and one from now until .

Dr. Pushpam Kumar: A lot of reliance would be on blended finance, that is from private sector, as well as public sector and more than more harvesting of the private finance how this wouldn't happen unless we make nature visible in all the metrics and the composite progress.

Dr. Pushpam Kumar: Now, that is, the BAT is the backdrop of my talk right now and.

Dr. Pushpam Kumar: The unless we collect the basic metrics which measures, the country's progress and will be.

Dr. Pushpam Kumar: I think this gap is not going to be met, that also means that we are not going to manage these three planetary crisis, and that also means.

Dr. Pushpam Kumar: that the growth will be compromised, maybe people say in the long run, but the way we are seeing the outcomes and the incidence I think it is not long run, it is now.

Dr. Pushpam Kumar: What is happening right now the pandemic, who had visualized that although there were warnings coming, but the way we have destroyed about our city increase temperature.

Dr. Pushpam Kumar: In does into illegal trade of wildlife and domestication of the wilds and fragmenting the habitats, that is the main root cause of this pandemic and today.

Dr. Pushpam Kumar: As well now IMF tracker the world has invested or blast to invest at least \$ trillion what they call bill back better So are we going to build back better, but this amount of finances why can't we manage our economy in harmony with nature rather against the nature.

Dr. Pushpam Kumar: And the fundamental of that amended that working along with nature moving along with nature rather against the nature, I think we need to change the Columbus the way we measure our progress and will be.

Dr. Pushpam Kumar: convincingly one indicator which all of us know it GDP gross domestic product income somehow this GDP wasn't never meant to measure the progress and sustainability.

Dr. Pushpam Kumar: When after after World War Two salmon because next and Dr. Hicks and so many people in in us, I think, Richard and Nancy levels.

Dr. Pushpam Kumar: They designed this idea of national income, it was just to provide the basis for taxation, I know that transaction across sectors in the economy.

Dr. Pushpam Kumar: But somehow it came or by historical accident, as it brokenness indignant and that did not help much now big that in background, once again, let me share with you, what I want to.

Dr. Pushpam Kumar: share.

Dr. Pushpam Kumar: yeah so.

Dr. Pushpam Kumar: The conventional indicators to measure progress.

Dr. Pushpam Kumar: And this is a foregone conclusion by the scientific community by the Economist development practitioners, as well as.

Dr. Pushpam Kumar: The global bodies.

Dr. Pushpam Kumar: If you see this.

Dr. Pushpam Kumar: This is don't bother much when the left hand side, a large number of mainstream economists is starting from edmonson about couldn't a softball Sam Wilson.

Dr. Pushpam Kumar: And it pulled in and until can help that's good band marla and many others, half of them are Nobel laureates they have been sending look GDP is not a good method of progress GDP, the flow concept, it is trying to move the stock.

Dr. Pushpam Kumar: Excuse me, and in that.

Dr. Pushpam Kumar: context unit would come into existence in after Stockholm meeting, and now we are going to be years from now Obama next year.

Dr. Pushpam Kumar: One conference Rio Rio Plus the one UNDP initiatives and various resolutions of the UN.

Dr. Pushpam Kumar: have been also tried in the point that, let us measure the storm of.

Dr. Pushpam Kumar: wealth that includes everything and that's why we call it inclusive well produced Capital building machine equipments right human capital, education, skin.

Dr. Pushpam Kumar: Health, they are the attributes of human capital, a third component.

Dr. Pushpam Kumar: All those things which are meant quality and quantity of water forest she says top quality of forest.

Dr. Pushpam Kumar: top soil quality all those things are.

Dr. Pushpam Kumar: The few events like I mentioned about unit you can see, the Secretary General in it in the basic.

Dr. Pushpam Kumar: formulations they're talking about moving beyond GDP me that was the time when Rome club was happening and me those at all and jira foresters and many other others in the US, we are questioning the rational and relevance of GDP, but nonetheless in unit back vitamins, but then the individual.

Dr. Pushpam Kumar: Researchers.

Dr. Pushpam Kumar: Also did work for the government, for example, for for Sarkozy government in France.

Dr. Pushpam Kumar: Joseph Stiglitz and i'm at the same, and if you do see they came out with this finding their GDP is not good, so let us measure the stock of wealth and recently for US Treasury.

Dr. Pushpam Kumar: The study was laid by Sir part of that scope from kimberly's saying they are saying the same thing that look don't rely on GDP.

Dr. Pushpam Kumar: If you really want to capture the contribution of nature, demonstrate the contribution and internalize in other sectors of the economy so they're pulled in bed equilibrium, we are able to take care of the nature, I think we need to measure whether.

Dr. Pushpam Kumar: We need to either stop of capitals in fact this HM treasury review, which will be presented in CBD Conference of Parties of.

Dr. Pushpam Kumar: Biological diversity, you know conventions that is in China and also UN triple C for climate change in top in Glasgow, in November, this will be discussed, but they are saying the same thing that we need to build wealth.

Dr. Pushpam Kumar: From our letters estimates countries if you see this this information is for until .

Dr. Pushpam Kumar: He can see that produced capital isn't rice.

Dr. Pushpam Kumar: Per capita of course human capital is also on her eyes, although their growth rate is not as high as produced capital but surprisingly.

Dr. Pushpam Kumar: And, unfortunately, the region which we have got natural capitalism decline, it is global average global average per capita, so there are countries which are doing slightly better now in Japan.

Dr. Pushpam Kumar: Monaco and many other few others, not many few few countries are showing positive growth rate in natural capital, but most of the countries are showing negative growth at Mitchell the capital, so what is, what is the message the message is number one we are a massive.

Dr. Pushpam Kumar: accumulating produced capital at the cost of natural capital number one Secondly, we are the inclusive wealth, the wealth, the wealth will be basically the all inclusive, whether we these three types of capital added.

Dr. Pushpam Kumar: Their growth rate is lower than the growth rate of GDP, the income, so the conclusion number two that we are not growing as much as we are thinking actually be an eating away our capital.

Dr. Pushpam Kumar: and treating them as income, and this is a very bad economics, you are mixing income with both as Simon Simon you know, occasionally, used to say this so that is bad and.

Dr. Pushpam Kumar: The other.

Dr. Pushpam Kumar: You know the third part is that.

Dr. Pushpam Kumar: This sustainability is compromised, because we are thinking that reduce capital can substitute natural capital that is not going to happen, maybe it was the case in th century.

Dr. Pushpam Kumar: During the period of Jon Stewart male or maybe in th century during David regardless time or but no not in into one.

Dr. Pushpam Kumar: So when we estimated the.

Dr. Pushpam Kumar: belt per capita some of the top countries which came are here.

Dr. Pushpam Kumar: Norway, Switzerland, Australia and New Zealand, Denmark, Belgium UAE Iceland us.

Dr. Pushpam Kumar: But some of the countries, so the in the.

Dr. Pushpam Kumar: Top.

Dr. Pushpam Kumar: ranking countries in terms of per capita in Roosevelt, they are not essentially the all the rich countries of the world.

Dr. Pushpam Kumar: You recall the Human Development Index, which was done by mobile hub for UN dp in that G, but, of course, their focus was more on human capital or.

Dr. Pushpam Kumar: Human Development that many countries, who are so called rich they came down and many of the other countries who are slightly know their level was

not that high in terms of per capita GDP, they came up because they had a better freedom for the woman or.

Dr. Pushpam Kumar: Infant mortality rate or many of the social indicators, they would be much better so here to on the basis of growth rate in inclusive wealth per capita in the top countries or top countries.

Dr. Pushpam Kumar: or many rich countries are missing, and if you go to the.

Dr. Pushpam Kumar: Bottom that slides I removed in the bottom, some of the so called rich countries are falling, so what it tells you it tells you that many countries in the world, and at least out of this hundred countries which be considered.

Dr. Pushpam Kumar: Many of them are consuming beyond their means.

Dr. Pushpam Kumar: That is one.

Dr. Pushpam Kumar: Second.

Dr. Pushpam Kumar: Conventional.

Dr. Pushpam Kumar: Conventional measurement like GDP did not guarantee sustainability here is the example on this X axis.

Dr. Pushpam Kumar: You have inclusive with per capita and the y axis, you have GDP per capita, you will see that many.

Dr. Pushpam Kumar: Be per capita positive, they are on the negative side, it means that they are thinking that the growth rate is going up, but actually.

Dr. Pushpam Kumar: The world is declining, so those countries will not sustain in the long run and i'm assuming that people who believe in ultimate source called brain.

Dr. Pushpam Kumar: is true to some extent, but technological innovation deployments and diffuser cannot be of help for ever for everyone in the world, so i'm not trying to raise the ghost of markers here, no way, but this limit to growth and.

Dr. Pushpam Kumar: constraining factors from nature to your growth with inevitably apply, and it has started applying we are talking in the age of pandemics, so I don't need to delivery this point.

Dr. Pushpam Kumar: No.

Dr. Pushpam Kumar: Did you sad part here the sad part is that.

Dr. Pushpam Kumar: Lead be.

Dr. Pushpam Kumar: Poorer countries are on an unsustainable part what is happening that growth in per capita inclusive wealth index.

Dr. Pushpam Kumar: Per capita inclusive, well, it is our.

Dr. Pushpam Kumar: Free very slow or probably negated.

Dr. Pushpam Kumar: The Doc the audience Amazonia sub Saharan Africa and part of South Asia so foreign countries are definitely on unsustainable path, and that is a very disturbing news it while.

Dr. Pushpam Kumar: We are inequality has grown your world with a still we have million poor people by . dollars in the criteria.

Dr. Pushpam Kumar: And this pandemic has worsened the situation we have gone back to layer in, in fact, as the Secretary General of the UN always says.

Dr. Pushpam Kumar: That this pandemic has taken over years from us what we achieved in last years has been taken away and we have gone back to .

Dr. Pushpam Kumar: And in that context, this estimates and the findings from countries the border countries are unsustainable part is is not only disturbing, it is unethical to.

Dr. Pushpam Kumar: So let me, let me give you some of the very simple messages that GDP or the income is not there if you really want to keep track.

Dr. Pushpam Kumar: Of the sustainability and well being of any society or economy well, so we measure the way the business forms to a business from either have a balance it without the balance sheet for the nation's.

Dr. Pushpam Kumar: Broadly, few countries might have but not many countries so mixing income and wealth is dangerous for sustainability that message should be understood.

Dr. Pushpam Kumar: Second happiness and wealth go together, in fact, you know, interestingly, when we had data countries on this per capita, of course, and we had some information on the happiness index, and when we try to run.

Dr. Pushpam Kumar: The you know relationship, it was very I was pleasantly surprised that know wealth captures that have happiness more than what an income candle.

Dr. Pushpam Kumar: Wealth bring the amine so Finally, what we need to do bring the composite progress on to the sustainable path and fill gaps with GDP and even hdi are struggling to do that's why inclusive wealth.

Dr. Pushpam Kumar: is a better way to measure and keep track of our progress system.

Dr. Pushpam Kumar: inclusive and also helps you in tracking some of the global I mean many of you might know you have the global back for the you know the environment to pay the segment September for which all the countries agreed I happy that the US is back now, after a.

Dr. Pushpam Kumar: few years of that.

Dr. Pushpam Kumar: time we have a sustainable development goals.

Dr. Pushpam Kumar: And then the justice and conflict resolutions, they are mostly the UN, the solutions on which all the countries, or at least most of the countries they actually.

Dr. Pushpam Kumar: You can track the progress of this global lamppost better if your artistic is a proxy or your artistic uses inclusive wealth by.

Dr. Pushpam Kumar: So key messages for policymakers, for his students or researcher is know your wealth don't rely on income.

Dr. Pushpam Kumar: Of course, you need to grow your wealth that means if it is natural capital, you have to invest in a restoration, and that is what the.

Dr. Pushpam Kumar: scope does a review for UK early this year says that you need to invest a lot in restoration because right now, they demand and supply gap.

Dr. Pushpam Kumar: Between the ecosystem goods and services, we are demanding, or we are taking a lot more from the nature than what nature can produce and that's why.

Dr. Pushpam Kumar: Investment investigation is needed so know your wealth, of course, you have to do that in the first milestone grow your wealth, invest in your wealth and measure your wealth on a regular basis now and that's why.

Dr. Pushpam Kumar: I think some.

Dr. Pushpam Kumar: calculating manufactured capital human capital capital is the key.

Dr. Pushpam Kumar: Countries and the national as to district offices visit the basic stocks of assets through the national accounts, and that will be used building national capacity to report on wealth accounting is critical to reporting and knowing the path.

Dr. Pushpam Kumar: of growth in the business wealth, with the objective of maximizing social well being in the long run, so basically what i'm trying to say here that the the theory says that if you maximize per capita net wealth, you are basically maximizing sources.

Dr. Pushpam Kumar: and social well being increase over time if it pleases, and the reverse is also true, this has been.

Dr. Pushpam Kumar: You know, at least in academics, it has been proven by late can arrow and many others in the US and elsewhere and that's what matters with.

Dr. Pushpam Kumar: policymakers interested in well being so not focus on income alone, this would use inclusive well as key measure to measure the performance of the economy.

Dr. Pushpam Kumar: And that it is not surprising that on th of March, the Secretary General, Antonio good or is it topped it in new system of national accounts called ecosystem accounts and he'd emphasizing on the need to measure value of the nation's investing natural assets, can help to grow over on.

Dr. Pushpam Kumar: How to best convert virtual assets into human capital is a research costume but must be exploited.

Dr. Pushpam Kumar: In investment projects are inevitable and that's why.

Dr. Pushpam Kumar: tracking the growth of each type of capital will also help it is so big that trade offs.

Dr. Pushpam Kumar: Finally, I think tracking the side of it on with the gross domestic product is clearly in surfaces.

Dr. Pushpam Kumar: And indicators . of the system that would have been calls speaks of developing measurements of progress on system, and we have not been that compliment gross domestic product, and that is why focus on value measurement arm very Sue you might have lots of questions.

Dr. Pushpam Kumar: feel free to come back and be as direct as competitive as one can be Thank you very much.

Mahmood Nikbakhtzadeh: Thank you very much, Dr. Kumar that was very exciting.

Mahmood Nikbakhtzadeh: Not just to me, too, I think a lot of other participants today how you can include.

Mahmood Nikbakhtzadeh: The natural assets, the environment and just non financial things as traditionally it's been into the total wealth of nations and prosperity of nations.

Mahmood Nikbakhtzadeh: because not everything is just counting the money, how much probably you have, as you mentioned a lot of countries or a lot of nations.

Mahmood Nikbakhtzadeh: I think, mostly unknowingly they're contributing into like uploading forest or burning forest and all those things, and this is part of the world's they have.

Mahmood Nikbakhtzadeh: And I think, by destroying Downs somehow they lowering down there's total wealth and there should be a different mechanism to measure that, as you mentioned okay two questions i've got I think i've got one question so far any asked.

Mahmood Nikbakhtzadeh: What common man's role to what is the common man drone to contribute our nature.

Dr. Pushpam Kumar: You want to take one by one hour, we want to gather a few questions and up to you.

Mahmood Nikbakhtzadeh: Right now, we have just one, and there is also another question to so far, we have just two so.

Dr. Pushpam Kumar: So so so The first question was how we capture some of the contribution which are non marketed not monetized at the project and accounted correct.

Mahmood Nikbakhtzadeh: that's right what could be the general role of us how we can contribute into this.

Mahmood Nikbakhtzadeh: Yes, maybe Julie, I mean not not the role of government, probably, this is the question, not the role of governments, but individually, what can we do.

Dr. Pushpam Kumar: So the first question is, you know.

Dr. Pushpam Kumar: really need to assess and account the contribution of nature or and probably monetize them.

Dr. Pushpam Kumar: In order to facilitate three things.

Dr. Pushpam Kumar: Number one by having a quantified and monetize information on the contribution of nature contribution can be maligned or benign it depends minus plus.

Dr. Pushpam Kumar: So it will help you to integrate that impact into other happenings in the economy like fiscal policy and monetary policy or trade, investment design, it is possible, once you have quantified and monetized you know Informations second unfortunately or fortunately, this is the.

Dr. Pushpam Kumar: Only language.

Dr. Pushpam Kumar: The policymakers understand.

Dr. Pushpam Kumar: I mean you can always say that if that is the question, if that is the case then change the policy makers sure if I do that, but as the system exists in the existing system that is the language recognized and spoken by most of the policymakers, including quality sales third.

Dr. Pushpam Kumar: in life, you have hard choices, you have trade offs, you have limited resources, you have limited income and you have unlimited needs and unlimited wish or desire in order to meet the.

Dr. Pushpam Kumar: The your your growing ever growing demand, you will face inevitably the trade offs and in order to resolve the traders, I think, having monetized and quantified information of the nature will have so.

Dr. Pushpam Kumar: But the language of the policymakers is like that which will be held if we have quantified Informations second you have.

Dr. Pushpam Kumar: You know the integration, the mainstreaming of nature into economy will be enabled if you have quantified information and third to resolve the trade off there could be many other.

Dr. Pushpam Kumar: You know, rational like if they are providers and beneficiaries that trading can happen or, if you have gainers and losers across different generations those kind of issues can also be resolved with the help of this.

Dr. Pushpam Kumar: Now That said, I fully agree that they are many contestants of nature's, especially from leading resources from biodiversity are they are, they are hard to capture at least.

Dr. Pushpam Kumar: With the given tools and approaches of economics.

Dr. Pushpam Kumar: Yes.

Dr. Pushpam Kumar: But every time Everywhere you don't need to put money into an account.

Dr. Pushpam Kumar: Do use this when you have trade offs when you have competing uses and in that context, I think, accounting and this monetary valuation We certainly have.

Dr. Pushpam Kumar: Wherever you have huge uncertainty unknown unknowns you don't know anything about it, or you feel that Oh, this would not be subjected to monitor evolution.

Dr. Pushpam Kumar: Through the consensus and deliberations, you can choose not to go for quantified know monetized information, but there are situations which are in

literature, we are well defined go for valuation go for accounting don't go for well wasn't done go for the count.

Dr. Pushpam Kumar: The question number one second is what the common man can do, yes, we have to costs and our.

Dr. Pushpam Kumar: chores the conjunction.

Dr. Pushpam Kumar: and

Dr. Pushpam Kumar: Education, I think the educational institutions have a big role to play, the way we.

Dr. Pushpam Kumar: The way we live our foot friends.

Dr. Pushpam Kumar: um.

Dr. Pushpam Kumar: of consumption and also.

Dr. Pushpam Kumar: The lifestyle in I think that is something we have to.

Dr. Pushpam Kumar: You know, to address, secondly in in the decision making, I think, ethics and passions, this is nothing new, by the way, it takes and compassion have to play a role, and many of the.

Dr. Pushpam Kumar: Religious scriptures or old philosophies they do talk about it, I think there is opportunity to use them for the individuals but.

Dr. Pushpam Kumar: behavioral changes or nothing cannot happen just.

Dr. Pushpam Kumar: you and me talk that all through normative prescription nobody follows that what they will follow that we we change the incentive design.

Dr. Pushpam Kumar: for individual for the family for the household and I think in the visual if this find the change incentive design, they will change their behavior and nothing.

Dr. Pushpam Kumar: Towards a friendly approach, an accident to nature will definitely happen so in the future we'll have a strong, you know in climate science people have been talking mitigation what is happening now, they do it.

Dr. Pushpam Kumar: I mean, most of the focus is now on adaptations, because an adaptation individual has a big role to play and what exactly it in conjunction life is time now.

Dr. Pushpam Kumar: I think search engine, you know the sovereign wealth fund the pension funds in US i'm me and the people are asking how they have been sent from there, the money is going to be used, how the banks are using their.

Dr. Pushpam Kumar: lending practices they are.

Dr. Pushpam Kumar: You know pressurizing the bags to behave in a certain ways so changes are happening, and that will only happen if individual is well aware of of their role what one more thing here.

Dr. Pushpam Kumar: You know, individual since you asked a very good question here.

Dr. Pushpam Kumar: there's something called do a paradox.

Dr. Pushpam Kumar: That individual will be have very differently if he's not aware of.

Dr. Pushpam Kumar: If he is not made aware.

Dr. Pushpam Kumar: of how his accent is going to impact the future generations, but if he is given example and evidence that how his.

Dr. Pushpam Kumar: See after all these young generation who are campaigning for climate or wildlife and diversity, there has been a change because they know that how their.

Dr. Pushpam Kumar: actions are going to impact the future generations, so I think once we bring the clear science and simple language to our students and our citizens, I think their behavior will change, and that is what individual has to do.

Mahmood Nikbakhtzadeh: Thank you very much, the next question is how do nations begin to take next steps in the near future.

Dr. Pushpam Kumar: Is this for particular you know this climate about diversity or every.

Mahmood Nikbakhtzadeh: I think you're partly mentioned this in your talk, but if you want to add anything to what you already said, because you mentioned to this issue a little bit in your talk.

Mahmood Nikbakhtzadeh: I mean.

Mahmood Nikbakhtzadeh: Which are means very probably not not for the next decades, but within a year within the next year, two years, what are the first steps, whether they're.

Mahmood Nikbakhtzadeh: Initiating step we can take.

Dr. Pushpam Kumar: No, so why next year I will talk about this year we have six months left in this year so see in in October, we have a.

Dr. Pushpam Kumar: Conference of Parties of conventions on Biological Diversity CBD right all the countries of the world, they are the Member right, and there is something called global biodiversity framework that will be something a principle on which every country will have to report to CBD in Montreal.

Dr. Pushpam Kumar: That how much how, what is the indicators, they are following what are the you know how much subsidy, they are giving which is impacting biodiversity.

Dr. Pushpam Kumar: How what steps they are taking to integrate biodiversity into not only educational institutions but financial fiscal monetary policies, this really, really boarding process, and they are going to agree in government China.

Dr. Pushpam Kumar: But I will see you have you know the climate change summit coming in Glasgow, and there is a lot on the table in the agenda and.

Dr. Pushpam Kumar: You must have heard about the target that countries are committing that they will become zero emission countries in their place so.

Dr. Pushpam Kumar: Countries are coming under one roof and agree to act which, which is not a main thing I mean you have seen what happened in bed is.

Dr. Pushpam Kumar: It was unimaginable years back so countries are showing interest the third is even convinced, to combat the certification.

Dr. Pushpam Kumar: And the CD I mean landed up so, by the way, not maybe not you went to North America, but certainly in the part of the world where I'm based and also in South Asia in medalists.

Dr. Pushpam Kumar: I think landed isn't is a big issue and the countries are going to agree on the action which they will undertake.

Dr. Pushpam Kumar: Under this you know kind of answers to this is super year for nature and countries are coming with their plans which they will share and report.

Dr. Pushpam Kumar: To the global in our conventions, I think he was is also part of many of them, but us is I'm talking about us because many of you are based in the US right now.

Dr. Pushpam Kumar: But they are, they are showing in some cases they have not signed the Treaty, but they are, they have they have agreed to report about their activities voluntarily So yes, I'm in countries, in fact, if you ask me, and if you analyze the last years.

Dr. Pushpam Kumar: Every year, things are becoming better and better i'm a hardcore optimist.

Mahmood Nikbakhtzadeh: Thank you another question again I think it's been already partly at least been answered, but it asked how can the natural capital be accounted for, if we are not in the agreement to devalue of nature.

Mahmood Nikbakhtzadeh: For example, when we go to air pollution, you know, there are a lot of discussion about fossil fuels in the role of them in air pollution.

Mahmood Nikbakhtzadeh: But there are countries that they're going to even add more into the burning of fossil fuels and they are going to produce more or.

Mahmood Nikbakhtzadeh: You know, so the reason the sacrament in the end for the scale that some people want to lower the down some people want they don't believe in it, they want to add into this, because they think their economy.

Mahmood Nikbakhtzadeh: That growth of their economy will be lower down if we stop and change from, for example, fossil fuels into other things.

Dr. Pushpam Kumar: Oh, so that that adamson is flatly wrong.

Dr. Pushpam Kumar: See individual can be model individuals time horrigan can be years estate is not model estate is immortal or at least.

Dr. Pushpam Kumar: For years years they are going to our thousand years so.

Dr. Pushpam Kumar: Individual can think differently from the estate.

Dr. Pushpam Kumar: Now the question that.

Dr. Pushpam Kumar: You know grow, I mean the question is how you are measuring growth is this a growth.

Dr. Pushpam Kumar: Which is happening right now, are you happy about it we're happy about it this I mean fossil fuels, today we have still trillion a global.

Dr. Pushpam Kumar: Subsidies on on the fossil fuels and see the extent of extreme events, the socks and surprises the deer deification the droughts, the floods coming, I think.

Dr. Pushpam Kumar: It is not that i'm trying to over play and make.

Dr. Pushpam Kumar: Things that dramatic, but they are happening, I mean you are in pandemic.

Dr. Pushpam Kumar: This is because of the kind of.

Dr. Pushpam Kumar: Growth with hot off and, secondly, growth is not GDP that we have it is ultimately people's well being and that we have to so I don't think that people who think that reducing subsidies and fossil fuel will compromise the girls are.

Dr. Pushpam Kumar: I know the some of the popular and the dominant view on this, but the that narrative each engine that narrative each engine.

Mahmood Nikbakhtzadeh: Thank you very much, Dr. Kumar we have a few more questions but we're getting close to am Pacific, of course, time and I think we have to lead by these are close the session, as I know, President morale has has a different meeting, right after this one we don't want to keep from here.

Mahmood Nikbakhtzadeh: So I very much appreciate you Dr. Kumar for being with us today at the University of California San Bernardino and I will ask Dean sestri pen tula dean of the College of natural senses, to give the closing statement, thank you very much.

Sastry Pantula: Thank you, Nick What a wonderful presentation and what a great honor for us to have such a distinguished speaker and no no wonder is called the extraordinary Professor Dr. Kumar for our ut family and for our Community here.

Sastry Pantula: yeah as we look for having healthy people living on a healthy planet in a healthy economy his talk really touched on all of them, I mean i've been reading about him and he's really down to earth guy and he's really in terms of nudging for nature.

Sastry Pantula: Like Tracy Chapman sings Why do people have to die of hunger, when there is enough food to feed the world, I mean think about it, I mean that's the type of things that he's mentioning and the work that he does is very much appreciated throughout the world.

Sastry Pantula: And I want to thank Nick.

Sastry Pantula: Clear rubber and our President Morales for organizing and for supporting this event also thank all the participants who joined us today hope all of you have a wonderful Memorial Day weekend and honor the folks who have sacrificed their lives for us, thank you very much.

Mahmood Nikbakhtzadeh: Thank you, depend tula Dr. Kumar anything else, before we close it.

Dr. Pushpam Kumar: All times, it was pleased to be with you and I totally enjoyed my interactions and it did honor for me to be here once again thanks very much.

Clare Weber: Thank you very much thank you so much.

Mahmood Nikbakhtzadeh: Thank you, Dr. Webber Thank you President Morales, Dean Pantula, and Dr. Kumar, have a wonderful time everybody.

Clare Weber: Bye bye, Thank you.

Sastry Pantula: Bye bye.

END – 00:59:37