Creating an integrated national data system

With: Philip Wollburg

Hi everyone, my name is Philip Wollburg. And I will be talking today about what is an integrated national data system and how we may go about building it. We discuss in this course and in the 2021 World Development Report, a number of examples of just how much value data can create but as we have seen much of that value remains untapped and there are even some real risks to our increasingly data rich and data driven world.

And so, we proposed this idea of an integrated national data system in the 2021 World Development Report as a framework for how to organize national data systems to maximize the value of data for development while also safeguarding against its risks.

So, what is an integrated national data system? We can think of an integrated national data system as an intentional whole of government, multi stakeholder approach to data governance. It is intentional and whole of government in the sense that the data are actively and deliberately built into decision making in government rather than you know just in a byproduct or an afterthought.

It is multi stakeholder and collaborative in the sense that it integrates stakeholders from civil society from the public sector and the private sector, academia as well as international and regional organizations into the data governance system and into the data life cycle.

And so that means, shared governance structures between different stakeholders and that different stakeholders can act both as data producers and as data users and that the data can flow relatively freely between the different stakeholders or participants. Now, higher degrees of this kind of integration don't necessarily mean more centralization but what it does mean is close coordination and shared governance structures between the participants. To achieve this, an Integrated National Data System needs to really center people. Why, because it takes people to produce, process and manage data. It takes people to safeguard and regulate data. It takes people to use data for the public benefit and to all public and private sector actors accountable. There's already an established concept out there to do with data system and National Statistical System the NSS. So, let's talk about the differentiation between the National Statistical System and what we term an Integrated National Data System.

The National Statistical System has some resemblance to an Integrated National Data System, in the sense that it consists of an ensemble of participants that by definition jointly collect, protect and disseminate official statistics.

But the Integrated National Data System is a lot more expansive in scope because it encompasses data more broadly not just statistics. And it encompasses data being produced, exchanged, and used by stakeholders from the public sector, from civil society, academia and the private sector. But we can view the National Statistical System as a core part of an Integrated National Data System. And depending on the strength of the National Statistical System, an Integrated National Data System can be built on the foundations of the NSS.
Okay, let's look in some more detail at this vision of an Integrated National Data System. What are we actually talking about what does it in entail? So, we distinguish functions, participants, pillars, and foundations in the framework of the Integrated National Data System.

Functions are about what happens with data in the system. Now, in a well-functioning Integrated National Data System, the data are produced, protected, used and reused frequently. The data is open and accessible and quality controlled to ensure that they are of high quality.

The participants of the system already mentioned them a few times are governments, civil society, academic institutions, the private sector as well as international and regional organizations. Now, they can all act as both users and producers of data. And their data are safely exchanged with other participants and used and reused by other participants. The pillars are the building blocks of the system that is infrastructure policies, laws and regulations, economic policies and institutions and these are discussed, in more detail in other parts of the course and World Development Report 2021.

And finally, the foundations are like the underlying conditions - the drivers that sustain an integrated national data system. And for these, we have identified human capital, trust, funding incentives, and data demand. In a well-functioning Integrated National Data System, these foundations are aligned in such a way that the system can really reap the benefits of data for development.

Now, of course the vision of an Integrated National Data System may seem like quite a long way to go for many countries in the world and especially for low- and middle-income countries. A country say with low governance capacity maybe even afflicted by conflict or violence, how can such a country aspire to this vision of an Integrated National Data System.

To make that process more manageable and more accessible to countries at different levels of capacity, we propose a maturity model as an organizing framework that helps us assess where a given country stands in terms of data maturity, what are the strengths and weaknesses, and where to begin taking the next steps towards building an Integrated National Data System. So, this is really an analytical tool that should help us assess the country's situation and pinpoint where we should turn our attention first.

We can distinguish 3 levels of data maturity. At low levels countries need to focus on establishing the fundamentals of an Integrated National Data System, then at intermediate levels countries can work towards initiating data flows between different participants in the system and then at higher levels the focus moves to optimizing the system to really reap its benefits.

Of course, different participants in the system, different institutions and agencies and so on can be at different levels of maturity in one and the same country at the same time. And of course local context will ultimately dictate a lot of how working towards an Integrated National Data System will look like and how the maturity model will look like.

So, now we have seen the different components of an Integrated National Data System. We’ve seen the functions it ought to achieve, we have seen its participants, the pillars, and the foundations, as well as the analytical tool to customizing and breaking down its steps that is the maturity model.

Now, let's bring these things together, to start working towards an Integrated National Data System - how do we do this? Put simply this means looking at the pillars and foundations for the different
participants and applying to maturity model as a diagnostic tool to decide where are the most needs and where should we focus.

Let's look at a few examples, this first example relates to the first maturity level where the focus needs to be on establishing fundamentals. And it is about funding for the Integrated National Data System. Funding is foundational to making any data system to work. But data systems around the world are truly wilfully under-funded. So, this is an area on which many countries will need to focus. As we can see here, national statistical plans aren't fully funded in even a single low-income country, while the lower and upper middle-income countries are also under funding their national statistical plans. And then it is really just a proxy for the national data system more broadly. Fund an Integrated National Data System, requires funding more than just statistics.

For instance, you know, you will need to hire and pay the right people in the right institutions to fulfill those functions of an Integrated National Data System. Also, funding is a problem not only in government agencies but civil society data production, we find is also really constrained but funding. And so, finding ways to better fund data systems is an early foundational step that countries need to take in to move towards a functioning an Integrated National Data System. At slightly higher stages of a data maturity, the goal is to initiate data flows within the Integrated National Data System.

This means that data should be securely exchanged between participants and used and reused widely to start tapping into the full value that data can create. But, for the data to be used and reused widely, civil society needs to have data literacy. Countries can focus on fostering data literacy among civil society in a number of ways. This can be done for instance by creating training opportunities. The Storylab academy that trains African journalists to improve data literacy as well as the Sudan evidence base and data literacy capacity development program which offers data literacy training in other professional settings are a couple of examples of these kinds of training opportunities.

Another, perhaps complementary approach is elevating numeracy and basic data skills in educational curriculum. Then finally, at high levels of data maturity and it becomes about optimizing the system. An example of a step to take at this level is to make sure that global data innovations are adopted and acted on locally. Academia is a participant in the Integrated National Data System and is well placed to transfer and apply global knowledge to local contexts. Take the example of randomized controlled trials. These were originally pioneered by academics at elite universities, but they have become decision making tools by many governments in the meantime.

For example, there is Mexico's National Council for the evaluation of social development policy which has the mandate to coordinating impact evaluations of the national social development policy of Mexico. So, these were just 3 relatively high-level examples of how we may go about taking steps towards creating an Integrated National Data System. In practice, these steps will have to be customized but these frameworks and tools that we discussed today are useful and can be easily adapted to local contexts as needed.

So, let me close with some key takeaways. First, data has great potential to create value in society, but a lot of that potential remains untapped. Second, an Integrated National Data System is a vision for how to move closer to realizing that value. Third, an Integrated National Data System, integrates various different participants from government, civil society, academia, and private sector, international and
regional organizations. Number four, we detail the pillars that make up an Integrated National Data System, we talked about its foundations. Number five, the maturity model was introduced as an analytical tool that we can use to diagnose where a country stands in terms of data maturity and which steps to prioritize in creating Integrated National Data System. And finally, in practice building an Integrated National Data System will need to accommodate a lot of customization and contextualization.

With that, I thank you for your attention.