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Q: Slightly over a year ago in our January/February 2023 issue, we had published an article which you authored, entitled "An assessment of leveraging digital infrastructure in the fisheries sector". One of your observations in that article was the rapid expansion of e-commerce, catalyzed by the COVID-19 pandemic, but that the benefits of deeper digitalization are not equally shared across regions and sectors due to issues surrounding affordability, access, quality and capacity. In your opinion, what are the top three challenges that need to be addressed, and how?

A: As you might have noted, since 2023, a lot has changed in the technological space with Artificial Intelligence (AI); in particular, Generative AI augmentation. The top three challenges that need to be addressed are:

- (i) Digital Skilling: as one needs to have expertise in the entire ecosystem from first mile to last mile to operate effectively in the digital economy for quality and capacity;
- (ii) Provision of digital infrastructure; in particular, compute capacity for building solutions for access and affordability; and
- (iii) Women and youth empowerment in the digital space needs to be enhanced for digital entrepreneurship.

Q: How can digital infrastructure be leveraged to address the global digital divide, amidst the major changes that are still happening in fisheries value chains, post-pandemic?

A: Digital infrastructure is the fulcrum to the entire digital ecosystem. One can be digitally-skilled, develop remarkable ideas and solutions for business development; but there is still the need for digital infrastructure

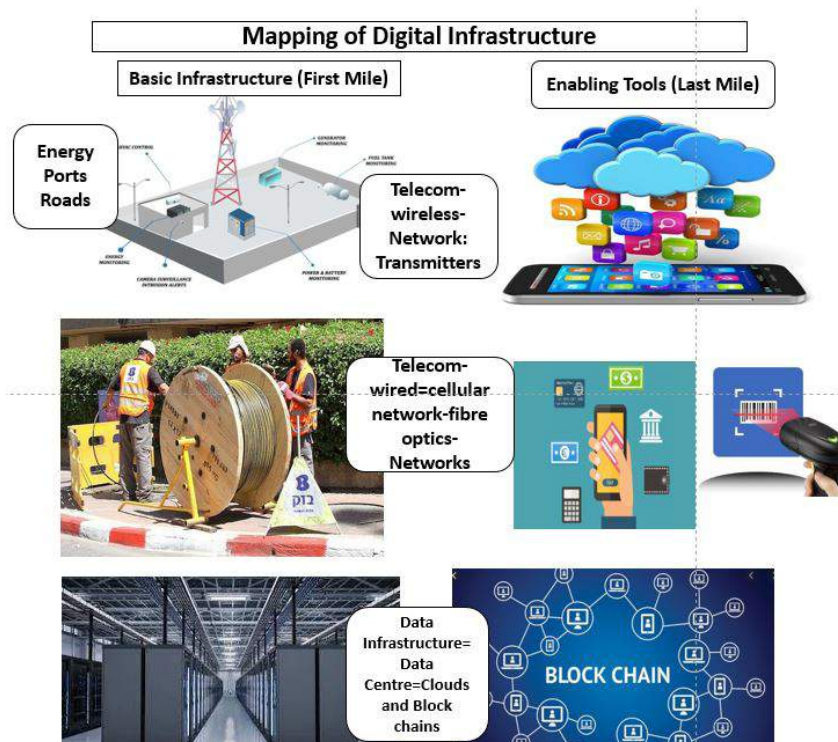
as well as the compute capacity to sustain the digital solution, and the same is true for the fisheries sector. To host solutions in data centres with compute capacity can be expensive for many developing countries. Previously in trade negotiations, infrastructure in general had been one of the development challenges and dimensions in economic development, and this is something I was particularly adamant for developed countries to provide to developing and small States. However, now in the digital economy, digital infrastructure has become critical, alongside the provision of traditional infrastructure and internet connectivity. The layer of digital infrastructure including infrastructure as a service, platform as a service, software as a service, data as a service and compute capacity to host applications, have become more important.

Q: In the event that a multilateral agreement on digitalization needs to be drawn up, can you suggest some policy recommendations for trade negotiators?

A: As a trade negotiator, I would first recommend the trade experts to learn about the technical aspects of digitalization in practice, prior to engaging in any multilateral digital trade agreement. Each day, countries are encountering digital divides on one hand and proliferation of AI developments on the other hand. The critical technical understanding that is necessary will only lead to a successful multilateral agreement. Having said this, if I were to design a multilateral agreement on digitalization, I would consider the following: digital trade facilitation, treatment of digital products including data issues, consumer protection issues, digital identities, transparency and a fully-fledged development chapter, including special and differential treatment on digital infrastructure, digital skilling, data localization, cybersecurity, women and youth empowerment, mutual recognition of digitally-skilled qualification, capacity for development of digital systems; and assistance to enable conformity assessment for digital infrastructure systems, knowledge and technology transfer. There are many trade agreements on digitalization out there but one of the key elements missing in all is the development dimension.

Q: With regard to sustainability of fisheries resources, how can digital infrastructure tools enhance the development of the fisheries sector? What are some data analysis tools that you feel particularly strong about?

A: On fisheries sustainability, it depends on what you are trying to address. For example, if you are trying to address the issues surrounding illegal, unreported and unregulated fishing (which by the way the World Trade Organization is aiming to have its 13th Ministerial Conference outcome on), then I would use data from the Regional Fisheries Management Organizations' FAO databases, Sea Around Us and national databases. If I am trying to address the issue on over-capacity which could mean fishing vessel size, gross tonnage per vessels, fishing gear used and so forth, then I would use the EU database of fisheries, the FAO database and whatever national databases that provide such information. If we consider a fisheries trade database (including aquaculture), then I would use data from the World Bank to determine the fish catch and also the UNtrade database. It depends on your analysis.



Note: The Figure above is the author's own depiction

Credit: Radika Kumar

On the data analysis tool, now there are various digital and AI tools to undertake different analysis. Oracle has its freely-available tools to undertake such analysis. Google has its databases; and if you are more creative, you can use Google Colab with its publicly-available database to undertake predictive analysis. These digital infrastructures are more software as service applications. There are numerous other tools. If you are undertaking fisheries management, then you can easily use blockchain technology using private Cloud to detect the source (rules of origin) for fish from boat to final consumers. The most recent which is more equivalent to the "Canva" for AI is the Open Weaver studio for low code developers that can also undertake such analysis with a few clicks of a button.

Q: New developments are being seen in relation to packaging and sale of fish and fishery products, including changes in market dynamics. Could you expand on how global market dynamics have evolved and how does this trend affect the small-scale fisheries sector in developing countries?

A: New developments with digitalization, of course emanating from the COVID-19 crisis, has changed global trends, including for the small-scale fisheries sector. With technology, things have become borderless with greater opportunity for Business to Consumer (B2C) interactions without the need for the middleman. So, one of the fairly new trends is the B2C business model, including in the fisheries sector where small-scale producers can reach consumers easily. We are aware that in many small islands, small-scale fishers are in unorganized sectors and have not developed their business to a technologically competent level in order

to reach global markets. In this regard, there are still hurdles to equip these businesses in the B2C platforms in particular to train them to harness the power of digital tools for digital marketing and sales.

Another trend is that as consumer demands have changed into sustainability, there are different standards that have to be met. For some small-scale fishers it may be easier, but for most, capacity, training and funding is a challenge in undertaking such reforms.

Q: As at 13 December 2023, the total number of World Trade Organization Members that have formally accepted the Agreement on Fisheries Subsidies is 55, but only one (Republic of the Gambia) belongs to the category of "least-developed country". We know that many developing countries are unable to reconcile the removal of subsidies in cash and kind, with the ability to fulfil important SDGs such as ending poverty. This is such an incredibly complex area of discussion (and perhaps you can suggest some links for further reading for those who want more detail) but for the purposes of this interview, could you elucidate the possible scenarios in the event of subsidies retained and subsidies removed?

A: The fisheries subsidies negotiations are complex and there has been much discussed. The rationale is that the Agreement was developed to eliminate subsidies to combat illegal, unreported and unregulated (IUU) fishing. However, as you may note, subsidies are not the panacea in reducing the global IUU fishing. There are several other factors such as monitoring, control, surveillance and conservation and management measures that are more critical to ensuring that fish stocks are sustainable and that the IUU issues are addressed holistically.

Issues related to effective regulations and reporting are also key. These are basically issues that are not in the mandate of the WTO; and if there were discussions on this in the WTO, negotiators need to exercise caution. Subsidies and their provision are not new in fisheries; historically, the developed countries that are now demanding the elimination of fisheries subsidies have been the major providers of fisheries subsidies in their own sectors. The developing countries, in particular the small vulnerable economies (SVEs) and least-developed countries (LDCs), are holders of fisheries resources and are not major contributors of IUU. They also need the policy space to develop their fisheries resources in a sustainable manner. As such, the elimination of fisheries subsidies for them will have a negative impact on the fisheries sector.

The current fisheries text in the Agreement has conditions under which developing countries and LDCs may grant subsidies, but the conditions attached are burdensome for most to adhere. As a result, if the Special and Differential Treatment chapter is not enhanced, then developing countries and LDCs will be at a major loss. Even with some exceptions, we

must be mindful that a few nations as per the UN list of countries are in the LDC categories, but that they would eventually graduate. As a result, they will have to adopt the stringent requirements contained in the WTO text, which will have implications on their fisheries sector. One of the critical elements missing in the fisheries subsidies text is “disciplines of the fishing vessel capacity of developed countries”.

The following link may be useful for your readers: <https://www.springerprofessional.de/en/fisheries-negotiations-at-the-wto-small-bait-for-large-catch/19162374>

Q: For small developing states and LDCs, what kind of support (e.g. protecting national trade interests, capacity-building) would be useful to encourage a policy shift in favour of eliminating or reducing subsidies and signing the WTO Agreement on Fisheries Subsidies, while at the same time helping them to work towards fulfilling SDG targets?

A: Enhanced special and differential treatment (SDT) would be key. It all depends on the scope. Many of the global fisheries agreements such as UNCLOS and fish stock agreements provide for “special requirements of developing countries” which need to be embedded in the Agreement. Some of the SDTs could be:

- Capacity-building assistance to determine scientific evidence for proper conservation and management measures for fisheries resources;
- Provision of infrastructure for undertaking research, analysis and scientific assessment of fish stock assessment;
- Assistance in developing the infrastructure and institutions for proper reporting of the fish stocks;
- Assistance in knowledge and technology transfer, scientific research and development in the fisheries sector; and
- Assistance in training and infrastructure for proper monitoring and surveillance of fisheries resources.



The WTO Agreement on Fisheries Subsidies, adopted at the 12th Ministerial Conference (MC12) on 17 June 2022, prohibits harmful fisheries subsidies.

Note that the transition periods for LDCs and small vulnerable economies are not sufficient in the text for them to undertake the required reforms in subsidies. The above assistance has to be provided to ensure that the text is balanced. The commitment must be conditional on the provision for SDT.

Q: Are fisheries subsidies effective as a trade policy tool to achieving Sustainable Development Goals?

A: As mentioned previously, fisheries subsidies are not the panacea to resolving the issues on combating IUU. Many developing countries, in particular the LDCs and SVEs, are using fisheries subsidies with a development dimension goal, which is necessary relative to the size of the economies of the developed countries. One has to also be mindful that historically, the developed countries were major subsidizers of fisheries that led to the development of their sectors; they have now become competitive for this reason and have therefore pushed for elimination of subsidies. However, developing countries who are holders of major fisheries resources, in particular the LDCs and SVEs, require policy space (including provision of subsidies) to develop their sector. The imbalance and development divide would be larger, and with adverse impact on SDGs, if the Agreement is not fair.

Q: There are many more questions we could pose on trade, economics and digitalization but then this interview would be too long! So, ending on a personal note, if we could talk about “The New Wine: The Story of a Strong Independent Woman” which you authored. Who is Radika Kumar and how did she navigate life’s challenges to reach this stage in her life?

A: I have crossed more than 15 years in my career – over a decade in trade, economics and digitalization and now into AI Policy into economics – so I wanted to share and inspire young women through my journey; hence, the book. As March celebrates Women’s Day, there is no better way for me to inspire men and women through my story. In my experience, strong women are not born, they are created with the challenges of life. The secret to success in my experience is not giving up, but rising up even better after every fall.



Note: Dr Radika Kumar states that the views expressed in this interview are solely hers, and not of any other person or organization.