### Sustainable River Basin Management Dr. Franziska Steinbruch Department of Civil Engineering Indian Institute of Technology, Madras

#### Module – 05 Lecture - 39 Part 4

Welcome everybody to sustainable river basin management; module 5, part 4. We have been talking about how to evaluate sustainability in river basin management.

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How to evaluate sustainability in	IGCS
river basin management?	ter SUSTAINABILITY
Pillars of sustainability	
Sustainability Assessment	
Multi-criteria decision support	
Systems thinking	
Sustainable Development Goals – Water Agenda	
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We talked about the pillars of sustainability, sustainability assessments, multi-criteria decision support, systems thinking and finally, I want to come to sustainable development goals.

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Sustainable Development Goals (SDGs)
Following the Millennium Development Goals (MDG)
MDG come to an end in 2015
Process of agreeing to SDGs is onging
Relevance:
Serve as a globally accepted benchmark against which results from socio-economic processes are measured

The sustainable development goals are following the millennium development goals, also called MDGs. These MDGs will come to an end in 2015. It started in 2000. There is an ongoing process of agreeing about the sustainable development goals right now, and the relevance of this is that they should serve as a globally, accepted benchmark against which results from socio-economic processes are measured.

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### Millennium Development Goals (MDGs)

MDG were based on principal of *moral obligation* of the developed countries to help the developing countries
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Transformed into specific target fields and actions: e.g.
Health, education, water and sanitation, etc.



Now, let us briefly talk about these millennium development goals. Those entities were based on the principal of moral obligation of the developed countries to assist the developing countries to go and improve in socio-economic development. So, those objectives from developing countries were transformed and for example, in the field of health and education and water sanitation and so on.

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Sustainable Development Goals (SDG)	
It was agreed in 2012 that SDGs must be:	
•Action-oriented	
•Concise	
•Easy to communicate	
•Limited in number	
•Aspirational	
•Global in nature,	
<ul> <li>Universally applicable to all countries while taking into</li> </ul>	
account different national realities, capacities and levels	
of development and respecting national policies and	
priorities.	
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Now, the sustainable development goals must be predefined. They must be action oriented. They shall be concise. They shall be easy to communicate. They shall be limited in number. They should also be aspirational. They should be global in nature and very important paragraph; they should be universally applicable to all countries, while taking into account different national realities, capacities and levels of development and respecting national policies and priorities. This is the key part here, which is quite different to the entities and which is remarkable also, for in the context of sustainable water resource management. We will talk about this now. (Refer Slide Time: 02:46)

## SUSTAINABLE Development Goals (SDG) CONTRIBUTED IN CONTRIBUTED INCOMINICULARIES IN CONTRIBUTED INCONTRIBUTED INCOMINICULARIES INCOMINICULARIES INCOMINICAL INCOMIN

•Address and be focused on **priority areas** for the achievement of sustainable development

Now, the sustainable development goals should be useful for pursuing focused and coherent actions on sustainable development. They shall contribute to the achievement of sustainable development. They shall serve as a driver for the implementation and mainstreaming of sustainable development in the UN system as a whole. They shall address and be focused on priority areas for the achievement of sustainable development. So, what is in the focus at the heart of these new global goals, benchmarks as sustainable development and what shall be focused on the priority areas and what the priority areas are is what is being under discussion.

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### How does it matter to sustainable IGCS river basin management

Remember the major challenges affecting water resources:

Resources depletion
 Resources degradation
 Climate change
 Growth and growing consumption – as principle of the economy
 Population growth and density

Now, how does it matter to sustainable river basin management? We should remember the major challenge in affecting our water resources. Remember the resources depletion, resource degradation, climate change, growth and our growing consumption as a principle of our current economies; the population growth and population densities matters or affects our water resources.

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Perspectives of the SDGs	
Are: Based on common global vision of progress towards a safe, just and sustainable space for all human beings to thrive on the planet	
Resting on moral principles that no-one and no country should be left behind	
Everyone and every country should be regarded as having a common responsibility for playing their part in delivering the global vision	
Challenges for developed and developing countries exist alike	
(Stakeholder Forum, 2015)	

The perspective of the sustainable development goals is based on a global common vision of focus towards a safe, just and sustainable space for all human beings to thrive on the planet. So, this is a global vision that entails all of us, anybody on our planet and gives space to prosperity, well being of anybody on our planet. This applies to anywhere, any country, any person. So, it is resting on moral principles that no one and no country should be left behind. Very different also that approach and that everyone and every country should be regarded as having a common responsibility for playing their part in delivering the global vision.

Now, in addition to that the perspective is that the challenges for developed and developing countries, exist alike; this is again very different to the entities as which were the departing points. They are transferred from developed to developing countries, was the primary objective. Remember, during our introduction, we were talking about GDP and the accumulation and redistribution of monetary wealth on global scale and we were able to see that balance, in terms of monetary wealth, has changed very much from the developed to the so called or previously, called developing countries, and which has left to the use of the term emerging economy. So, that is why the challenges and approached have fairly, very much changed. It is not that simple anymore to categorize countries into developed and developing economies.

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# Challenges of developing countries Pressing development needs of the developing countries are •Poverty eradication •Water and sanitation •Education,.. Responsibility of developed countries to provide support towards achieving the those development goals.

So, the challenges, however, of the developing countries are obvious and are still, very much present. Some of the pressing development needs of the developing countries are poverty eradication, water and sanitation, still education, and has a long list of issues come to electricity supply, the communication, telecommunication, information access, transportation, which are development needs of the so called developing countries and are perceived as priorities, as major challenges, and this is because of the heritage of our developed countries achieve the development goals.

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Now, on the other side, there are challenges for the so called developed countries and we have touched upon some of them in the earlier lectures as well. You may remember issue of urbanizations, issues of migration of decourse of population numbers, which affect how our water supply systems can work or our services can be delivered. So, the challenges of these developed countries are in the large transform, transformational challenges. Those are essentially, new economic paradigms that have to be defined, which have to prove themselves, which have to be enabled and developed. There are changes in patterns of behavior, which have to be achieved such as the patterns of consumption, the redefinition of well being, etc.

There must be a commitment of resources and there must be an adjustment or reforms in policies and education, which have to accommodate those transformational challenges. Now, those are really fairly, different from the dimensions, developing countries are

looking for, although all of those transformational changes equally, are important and substantial to the so called developing countries as well.

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Let us take an example of adjustments in water resources management in case of the European Union, coming as a stakeholder driven process. There is a so called water alliance that developed in 2014, and a set of messages, and those were sent in January 2015 to the new EU commissioners. They were highlighting the importance of water to the European economy, the environment and the society. This is quite an interesting approach, because the water alliance brings together, more than 500 so called stakeholders.

Those water stakeholders have presented from their research and innovation in water, from the water sector utilities, from European and national water sector federations and associations. They also include the large water users, industries and agriculture, like the small and medium size enterprises, as well as decision makers. So, that is why this is so interesting that is as an awareness and action oriented approach to advise and to steer decision making at the highest or top level, influencing the EU decision taking on water.

### Key points- Example EU developments Key opportunities as identified by EU Water Alliance, 2015: Sustainable management of Europe's water resources is essential to ensure a resilient energy union and a forward looking climate change policy Concentrated knowhow in service provision and technology development in water resources management including water pollution control useful to solve problems in Europe and globally

□EU water legislation is unique, ambitious and challenging. It provides a unique regulatory driver for innovation in the water-dependent economy 12

The key points from this example; it identified by this EU water alliance in 2015. I want to demonstrate you here is that sustainable management of Europe's water resources is essential to ensure a resilient energy union, and forward looking climate change policy. So, it brings together, two or three interesting aspects, important aspects is the sustainable management of a region in this case, the entire EU region of Europe and including all the water resources within that large region.

So, it is not a, in the sense, not an economic region, but a water resources region and it brings together the importance, and the important links between water resources and energy, energy management, the ability to achieve a change in our energy. Energy base is very much depending and linked to good water and sustainable water resources management. It also brings together, the aspect of climate change, which influences how weather, any of the other changes will take an effect or not. Now, the second point what we highlighted was that there is knowhow concentrated especially, in service provision and technology development in water resource management, including water pollution control, which can be made useful to not only solve problems in Europe, but also to solve problems globally.

So obviously, this has some economic dimension as well, but also has serious, shows some serious efforts to contribute to solving global issues; not sitting on solutions that work and provide a good space call to Europe, but to connect that space to the globe and water aspects at a global scale and make that knowledge and the experiences available. The third component in this very important as well, which is the fact that the European Union water legislation is unique.

It is ambitious and it is challenging and in that combination, it provides a unique regulatory driver for innovation in the water dependent economy. So, this is mentioned at before that, there must be an enabling environment and enabling institutional environment, legal environment for changes to take place, for processes to take place and depending how this frame has been laid out; changes will take place; innovation will have space to come out or not. In the case of the EU water legislation, very large ambitious steps are asked for, which call for innovation for the academic sector, for the research and innovation sector, industries to move forward to find solutions, to change step out of what this business as usual and look for new best practices, new technologies, which fulfill the new legal frames provided for.

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Now, this is in a way, historical momentum, because you remember that this came from last day stakeholder movement in a non violent way of proposing changes, though the society as such, is ready for such changes and now, in that respect, governments are asked to formulate and provide the enabling environment for the implementation; obviously, there are always many challenges and probably, also drawbacks to this, but we can consider something like this as historical momentum, which has to go and took years decades to go and to come to that current point, where the societies are pulling the people; individuals are pulling and try to contribute out of their possessions.

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Suggested literature	IGGS
'The Future We Want.' Outcome document of the United Nations Conference on Sustainable Development June 2012, Para 247. https://sustainabledevelopment.un.org/content/documents/733Fut ant.pdf	ureWeW
'The road to dignity by 2030: ending poverty, transforming all lives protecting the planet.' Synthesis Report of the Secretary-General or Post-2015 Agenda, December 2014, Para 48. http://www.un.org/disabilities/documents/reports/SG_Synthesis_Re ad_to_Dignity_by_2030.pdf	n the
Open Working Group Proposal for Sustainable Development Goals. 2014. https://sustainabledevelopment.un.org/focussdgs.html	August

Now, I suggest you following literature; this list, but just as a start up. You can find much more about this and you should read much more about this on your own and see, how this can be applied to your specific environment in your country and your region. With this, I want to close and I see you next time again.