



Role of technology for development



Technology Innovation for Sustainable Development

We will now come to the role of technology in development in the fight against poverty. This course is entitled Technology Innovation for Sustainable Development. Without venturing too much into semantics, which is beyond the scope of the topic today, my colleague Klaus here will explain to us what is meant by the words technology and innovation. There is a lot of literature and arguing about the definition of the concept of technology.

Notes

Summary



0m 18s

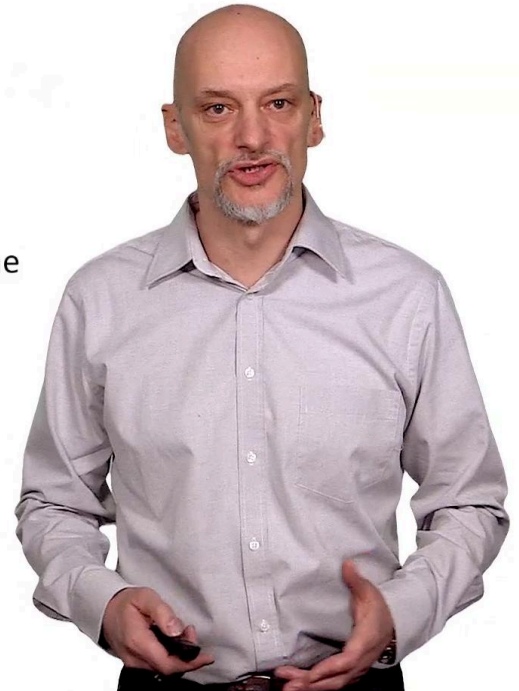


Role of technology for development

“Broadly conceived, **technology** is the most important single factor in producing, integrating and destroying cultural phenomena. Technology includes all tools, machines, utensils, weapons, instruments, housing, clothing, communicating and transporting devices and the skills by which we produce and use them.”

Read Bain

American Sociological Review, Vol. 2, No. 6, Dec. 1937, p. 860



For example, let me cite an American sociologist, Read Bain who wrote the following definition in 1937 : Broadly conceived, technology is the most important single factor in producing, integrating and destroying cultural phenomena. Technology includes all tools, machines, utensils, weapons, instruments, housing, clothing, communicating and transporting devices and the skills by which we produce and use them. Note that the citation includes a list of different technology types. Of course, what counts here is the fact that technology is about objects, tools and the skills by which we produce and use them. We should obviously also include “information” as we are now in the information age.

Notes

Summary



0m 55s



Technology is machinery and devices developed from scientific knowledge.
[Oxford Dictionary]

Technology Innovation for Sustainable Development

For the sake of simplicity, we would like to use another more concise definition for the purpose of this course. The Oxford Dictionary defines technology as "Machinery and devices developed from scientific knowledge." This definition is simpler and captures the essence of the concept of technology as we need it in this course. This is the definition we would like you to bear in mind as we move forward. Humankind has used technologies since prehistoric times and has always sought to improve them. Quite obviously, new and improved technology can provide competitive and evolutionary advantages.

Notes

Summary



1m 42s



Innovation: the action of making changes in something established, especially by introducing new methods, ideas, or products.
[Oxford Dictionary]

Technology Innovation for Sustainable Development

To look for new techniques or tools to do things better, cheaper, quicker is therefore in the very nature of humans. The title of our MOOC says Technology Innovation. My colleague, Soli, will now give you a simplified definition of innovation. In equally simple terms, Innovation can be defined as: the action of making changes in something established, especially by introducing new methods, ideas, or products. Note that it is not just about coming up with new ideas, but a lot more about effectively applying them so as to really meet the needs or expectations of the beneficiary. So, for the purposes of this course Technology Innovation is thus defined as: "Making changes by creating new machinery and devices, developed from scientific knowledge and deploying them in a way that fulfills needs and aspirations of the beneficiaries and their respective communities. As we will see later, this will generally involve a product and creative implementation planning, such as a business plan and an impact plan.

Notes

Summary



2m 22s



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Poverty is a terrible trap but technology innovation can be a key enabler towards solving difficult social, economic and environmental challenges. However, new technologies are not an end per se, they are more of a catalyst for development. Of course, technologies may also have unwanted by-products such as generating pollution, depleting natural resources in an unsustainable way, or enabling humans to wage war. We will not venture into such a philosophical debate, but simply recognize that certain technologies are essential for lifting poor communities out of poverty and improving their quality of life. They help fulfill basic human needs and rights such as health, shelter or education. Unfortunately, while many of these technologies are available in industrialized countries, they have somehow failed to be successfully deployed in Low & Middle-Income Countries and thus have been unable to deliver the desired catalytic effect for development. The question we would like to answer now is: Which technologies, exactly, could have a high potential in reducing poverty and catalysing sustainable development? Most of us will agree that weapons would not belong in this category.

Notes

Summary



3m 35s



Essential Technologies:

Technologies which can expedite the achievement of the Sustainable Development Goals.

Technology Innovation for Sustainable Development

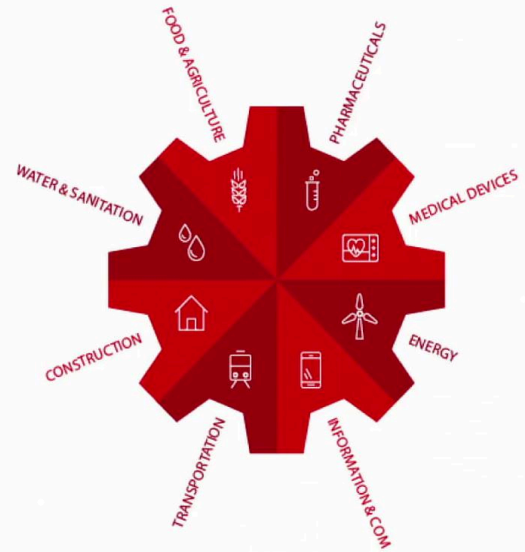
But other technologies, such as those defined by Read Bain, earlier like “housing,” seem closer to what we are looking for, since having a shelter is a basic human need. Klaus, will now tell you about which technologies we could define or consider to have a high potential to help reduce poverty. Let us first try to define a concept which we will call Essential Technologies. Essential Technologies are simply those technologies which can help expedite the achievements of the Sustainable Development Goals. Now, this sounds vague, how can we be more specific? Soli has nicely explained the Sustainable Development Goals in a previous video. He will now try and help us identify what those technologies are exactly.

Notes

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4m 55s



Technology Innovation for Sustainable Development

For the purposes of this course, what is considered Essential Technologies comprises: Food & Agriculture, Pharmaceuticals, Medical Equipment, Energy Information and Communication Technologies, Transportation, Construction and finally Water & Sanitation. The selection of this list was inspired by the Millennium Development Goals and the Sustainable Development Goals. When we analyzed the goals set by the UN from an engineering perspective, we observed that these technology domains stood-out as the most pertinent. In the same way as the UN have defined their specific goals for a sustainable future, we believe that it is very important to be able to identify technologies that can underpin the achievements of these goals. This will allow us to focus our efforts on the areas which have the highest potential. However, it must be stated that this grouping is not intended to be rigid, as in practice you may find various overlaps across or in between domains. For example, energy and ICT may typically be required in many other technology applications in the other domains. But before we get into the question of how to develop impactful essential technologies, in the following sessions we will discuss each of these technologies along with their potential role in development. Good-bye.

Notes

Summary



5m 47s