

Drivers and Constraints Affecting the Transition to Sustainable Farming Practices



Forum 1

Green Development Agenda

Speaker 5

Dr. Hassan Anwer

National University of Sciences and Technology (NUST)

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Abstract

The decisions of farmers to use farming practices and their ability to move forward along the sustainability trajectory are influenced by many external forces, such as markets, public policies, available science, technology, knowledge and skills, and the farmers' own values, resources, and land tenure arrangements. The market, policy, and knowledge structure are in turn influenced by efforts of broad social movements and organized interest groups that have different perspectives about how agriculture should be organized and how food should be produced and distributed. Understanding the drivers and the trends can direct policy attention to where changes can be made to influence farmers' decisions to effectively address the challenges.

Hello and welcome to this video presentation on World Green Science Day. I am Dr. Anwer, and in this video, we will explore the different Drivers and Constraints Affecting the Transition to Sustainable Farming Practices.

We are familiar with the sustainable trends in agriculture, which include food security, carbon sequestration, water preservation, reduced emissions, reduced waste, and land conservation. Let's look at some drivers and constraints that affect the farmers' decision-making process and could hamper the implementation of sustainable practices in farming.

So, the factors affecting farmers behavior and decision making can be broadly classified in to four categories.

Let's start with policies. Policies are the rules and regulations that farmers must follow when they farm. Farmers can have positive, negative, or mixed feelings towards policies. An example of negative feedback is that farmers in general may resist sustainable policies that involve strict regulations and compliance requirements. These could include rules related to water usage, pesticide restrictions, or land management practices that they view as

burdensome or costly. In another example, let's consider government subsidies. Farmers may have mixed feelings about subsidies for sustainable practices. Some may view them as essential support, while others may see them as insufficient or unfairly distributed.

Now see the Markets. Markets are where farmers sell their products and buy their input. These markets can be divided into three types: (1) farm inputs in the form of seeds, fertilizers, pesticides, machinery, and labor, (2) farm commodities in the form of fruits, vegetables, and grains, (3) value-added markets in the form of products such as flour, bread, cheese, yogurt. Markets can have positive or negative impacts on farmers' behavior and decision making. For example, markets that provide access to credit or insurance can enable farmers to invest in sustainable technologies or practices while those that limit access to credit or insurance can constrain farmers from adopting sustainable practices.

Knowledge institutions: Scientific research plays a critical role in advancing and improving sustainable farming by providing the knowledge, data, and innovations needed to develop and implement sustainable agricultural techniques. However, there are situations where scientific research can have unintended negative consequences.

Unintended consequences: Scientific research can lead to the development of genetically modified crops and advanced pesticides that are initially deemed environmentally friendly, but in the longer run they prove to be ecologically unsustainable. *Conflict of interest:* In some cases, scientific research can be influenced by industry or corporate interests, leading to biased results that prioritize profit over sustainability. This can result in the promotion of farming practices that may not be truly sustainable.

Stakeholders and social movements: Agricultural dynamics are influenced by the power of different interest groups. Public awareness of sustainability issues relies on dissatisfied individuals and groups challenging the current agrifood system. Although more organizations are emerging to support innovative farmers and sustainable agriculture, their progress is limited by the dominant conventional stakeholders. In future, achieving sustainable agriculture will require finding common ground and compromises among these diverse interests in markets, policies, and research institutions.

Farmers behavior and decision making is influenced by policies, markets, scientific research, and stakeholder interest. These factors are not isolated from each other, but rather interact with each other in complex ways. For example, policies can affect markets, markets can affect knowledge institutions, knowledge institutions can affect stakeholders and social movements, and stakeholders and social movements can affect policies. All factors must be considered simultaneously to achieve desired long-term sustainable goals in agriculture.

References

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