




Environment

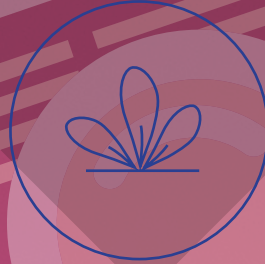
The Kingdom truly confronts many environmental challenges such as desertification, declining vegetation and environmental pollution. We are striving to figure out possible means to address these challenges and develop them in accordance with our local environment and challenges. This includes understanding the environmental impacts associated with desalination and how to manage them in ways that contribute to the marine environment preservation, especially Arabian Gulf, in addition to observing desert environment, the Empty Quarter and its surroundings in particular. We will also study possible methods to take advantage of the environment and convert it into a tourism resource in a way that ensures the continuity of efforts of environmental conservation. We will endeavor to achieve this by directing teaching and learning activities to give our students an environmental dimension, by supporting researchers to study the necessary technologies and disciplines to protect the environment, and directing our community activities that would contribute to the environment preservation. The research aspects also includes the development of effective strategies for optimal management of environment resources, supporting conservation programs for plant and animals as well as supporting the green economy.

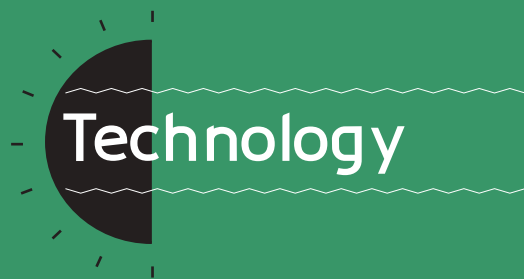


A stylized sun icon consisting of a black semi-circle on the left and a white semi-circle on the right, with short black lines radiating from the top and bottom edges. The word "Management" is written in white, bold, sans-serif font across the center of the sun.

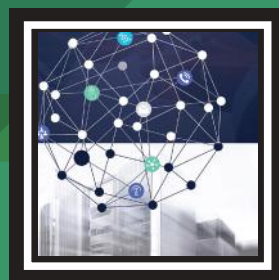
Management

Management has a major role in both food security and environmental sustainability by creating effective management models to manage the food and environment as well in a way that warrants availability of supplies and reach to individuals in a sustainable way. This could be achieved by studying the control system and costs related to food and environmental sectors, such as estimating the costs of environmental degradation and the changes may occur on agricultural production to study the possibility of government feasibility intervention. Moreover, the research aspect includes the optimal capital structures of these sectors besides the development of necessary marketing models to stimulate consumers to adopt practices that can improve our food security and environmental sustainability.



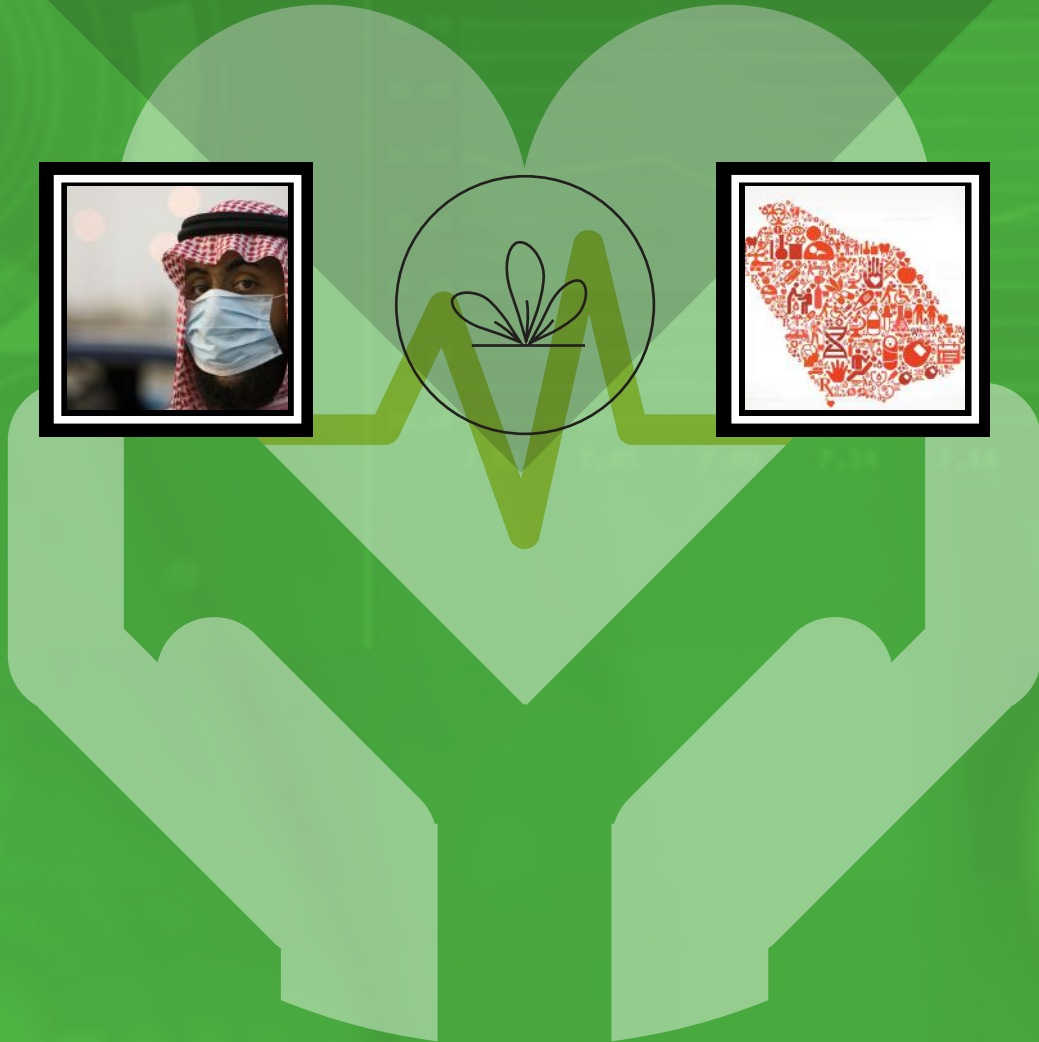


Technology is a key for achieving food security and enhancing environmental sustainability. Technologies such as drones can accelerate the monitoring of environmental changes and inspect plant and animal diseases. Modern water technologies can maximize the amount of water available for use through desalination and recycling techniques to optimize their utilization. As improving water distribution techniques can play a vital role in reducing agriculture costs and guarantees its sustainability, the development of new agriculture seawater and fish farming techniques has infinite horizons for improving food security in a way that ensures environmental sustainability.





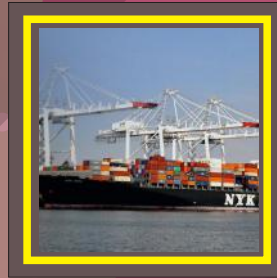
Health is one of the most important indicators of community progress that could be achieved through good diet and healthy environment. Health is essentially linked to nutrition and is not just about human beings but also on plants, animals and fisheries. Health as a domain is supposed to develop health and food policies and clarify disease map. In addition, the development of new medical systems will ensure the sustainability of our livestock to enhance the efficiency of our therapeutic products related to our vital agricultural resources. It also controls obesity diseases that have been affecting the Kingdom lately. It also includes the use of recent developments in psychology to stimulate habits that contribute to maintain health and food security as well as environmental sustainability at the same time.





Transportation and Logistics

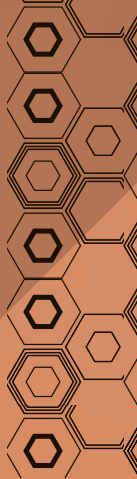
Transportation and logistics contribute directly to achieving food security through transporting and storing food in allocated places in order to preserve it. This domain includes studying how to transport crops and food products with the aim of reducing the possibility of wastage during all stages of food handling until reaching to the consumers. This can be fulfilled through increasing the efficiency of logistic services and reducing their costs. The development of logistics solutions will ensure the smooth movement of food supply chain.



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Manufacturing

Manufacturing is one of the most important pillars of food security. It is so difficult to achieve food security without presence of robust food manufacturing facilities, based on rigorous R&D. This includes creating modern manufacturing solutions that would be applied to the plant and animal products and natural resources. Similarly, it includes encouraging manufacturing technologies that preserve the environment as well as protect plant and animal products.





The Kingdom has many natural energy sources such as oil, gas and renewable energy sources. Despite the variety of energy sources, KFU will concentrate on renewable energies, especially bioenergy such as Algal, and seek to connect them with the different systems of agriculture and water to secure our food and sustain our environment. Furthermore, this domain also includes concentrating on technical and administrative solutions that contribute to reduce the energy required for the production, manufacturing and distributing all kinds of food.



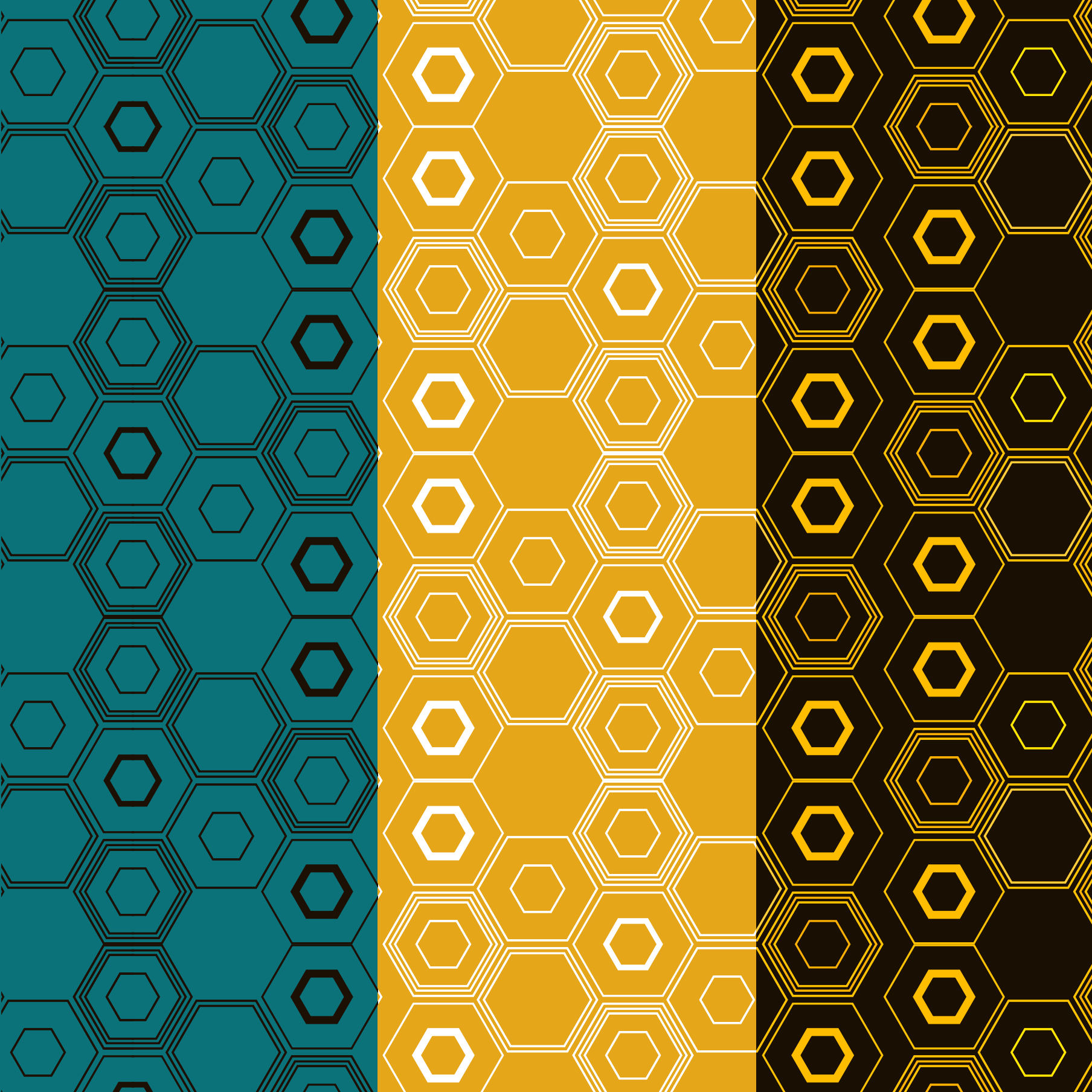
Investment opportunities and trends for food security and environmental sustainability

36

Seawater Farming and Landscaping	Vertical Farming	3D Printing in Agriculture
Algae Applications	Bioplastic & Sustainable Packaging	Desert Agriculture
Agricultural sensors	AI & IOT in Agriculture	Hydroponics
Precision Agriculture	Veterinary Vaccines	Agricultural Drones
Environment Conservation	Clinical Nutrition	Genome Editing
Food Value Chains	Bioenergy	Agricultural Tourism
Food Processing	Food-borne illness	Food Quality Control



Micro Farms	Environmental and Agricultural Laws and Policies	Strategic Inventory MGT of Food
Ecotourism	Aquaponics	Aeroponics
Food Sharing	Crowd-Farming	Irrigation Technologies
Blockchain in Agriculture	Water Purification Technologies	Sustainable Desalination Technologies
Alternative Energy	Agricultural Value Chain	Agricultural Marketing
Nudging towards Sustainability	Sustainable Landscaping	Recycling Technologies
Organic Pesticides	Water Preservation Technologies	Carbon Catchers
Climate Technologies		Costing in Farming





KFU

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