“REVIVAL OF BASIC SURVIVAL INSTINCT”

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COLLABORATIVE RESEARCH CENTER

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ABSTRACT

The advent of agriculture has ushered in an unprecedented increase in the human population and their domesticated animals. Today, over 800 million hectares is committed to soil-based agriculture, or about 38% of the total landmass of the earth. It has re-arranged the landscape in favor of cultivated fields at the expense of natural ecosystems, reducing most natural areas to fragmented, semi- functional units, while completely eliminating many others. A reliable food supply was the result.

Modern agriculture employs a multitude of chemical products, and exposure to toxic levels of some classes of agrochemicals (pesticides, fungicides) have created other significant health risks that are only now being sorted out by epidemiologists and toxicologists. As if that were not enough to be concerned about , it is predicted that over the next 50 years, the human population is expected to rise to at least 8.6 billion, requiring an additional 10^9 hectares to feed them using current technologies, or roughly the size of brazil. That quantity of additional arable land is simply not available.

Solutions are already being applied in other developing countries like China, Switzerland, Malaysia Netherlands and so on but not yet even introduced in Pakistan. Scientists in Pakistan are still on basic research and busy in recording the consequences of urbanization on agricultural land instead of working on solution to cease the growing global food problems. Moreover in Pakistan there are not enough research centers where Think tanks can work together to find the better solution for the problem.

Our solution involves the construction of an Modern agriculture research center with hi-tech vertical green house, bio-mass department and a civic garden and farmers market to involve the local public which altogether make a platform where not only scientists works for the solution but also students, farmers and public contributes their part in this challenge of growing population with the demand of more food in less agriculture land.

This will lead us to one anticipated long-terms benefits that would be the gradual repair of many of the world's damaged ecosystems through the systematic abandonment of farmland. In temperate and tropical zones, the regrowth of hardwood forests could play a significant role in carbon sequestration and many help reverse current trends in global climate change. Other benefits of vertical farming include the creation of a sustainable urban environment that encourages good health for all who choose to live there; new employment opportunities, cleaner air, safe use of municipal liquid waste, and abundant supply of safe drinking water.

INTRODUCTION TO THE PROJECT

PROJECT TITLE

'AGRI-TECH-TURE' beyond research center, is an Agriculture complex working hand in hand with technology and an initiative to a better and sustainable future. Research Center on its way to boost agriculture. A department that is sure to be propitious to the country's agriculture sector. A platform where scholars, students, public and farmers are working together for the Farming to be revolutionized by this innovation.

This project with its hi-tech green house in the form of vertical farming will serve the students of the campus for their food and will give a new meaning to farming itself. These Center and farming would be an exotic appeal, and a unique combination of architecture and agriculture.

PROJECT DESCRIPTION

This research building is an Urban and social vision from architectural realm in response to the increasing concern for the drastic growing population and depleting of agricultural land, global climatic problems, diminishing of natural resources and the sustainable ways of urban living.in the middle of the city , it creates a new civic space as social and cultural infrastructure tied with tied with new technology based research center, food production, bio-mass department, civic garden, farmer's market and, a restaurant based on this fresh production; a complete complex for healthy living.it challenges how we produce food and the way we consume in the city, and further the urban life style.

Over the last decade we have come to realization that we live in planet with limited resources.
So, to feed 11 billion people without destroying nature, we must intensify farming through modern techniques. But this alone doesn't solve the issue; the increasing population also demands excessive energy sources, so alternate energy production should be dealt, saving our natural resources.

For this reason, when energy prices go up, food prices tend to go up. From 1990 to 2013, the annual price of oil explained three-quarters of the annual variation in the price of food (cereals, edible oils, meat, dairy and sugar). This shows how directly both these factors correlate to stabilize our monetary state. So when we are focusing our resources on food production, we should resolve the energy crisis as well.

Large cities like Karachi, Lahore would be having food crisis in the next 5 to 10 years. This is where the concept of Modern agriculture Research center and Hi-tech green house as urban farming, cultivating food inside city comes in. it gives us the possibility to produce our vegetables in more effective, healthier and clean way. Lahore has great urban sprawl recently and it is expected that its population will exponentially increase.

RESEARCH METHODOLOGY

After selection of the project it is important to formulate a synthetic method which can help in understanding and designing the project. This methodology is divided into sequential stages which are as follows:

- Case studies
- Documentaries (related to high rise- structures)
- Books and research reports
- Internet
- Discussions
- Comparison between local and international facilities