



Youth Inspired by Knowledge

## On Piloting Tech-Innovations to the Land of Sustainability: Dr. Enrique Alberto Vázquez Constantino

*By Philo Magdalene*



From having lit our evenings with the invention of electricity to controlling the flow of electrons by mere voice commands, technological inventions have always striven for ease of lifestyles, successfully providing comfort to man in the process. The breathtaking range of new inventions that have been on a substantial rise in recent decades are dominating the global market. With this revolution of technology architecting our future, it is vital to ensure that our perceptions are in coherence with societal obligations and civic responsibilities.

Great ideas of reform in every field that enabled development in the past have always been pioneered by individual visionaries. Reformers with their notable contributions are present in all parts of the world being impactful in their own ways. Many of them have been instrumental in shaping the path of progress by the public growth and redirecting societal priorities whenever moral convictions deviated from conventional standards.

**Dr. Enrique Alberto Vázquez Constantino** is one of those phenomenal minds whose inspirational career has propelled various scientific innovations that focus on making products used universally environmentally sustainable. An academician, a scientist and industrial entrepreneur, Dr. Enrique has deep expertise in the field of scientific research, technological development and a wide range of other areas that are growing too broad to be listed. His works of innovation in the field of development speak for his strong pro-environmental standing. Understanding the unfettered possibilities of technology, Dr. Enrique functions with the belief that sustainable solutions are never impossible if innovators and implementers make the right moral choices.

Dr. Enrique's involvement with environmental initiatives began long before his association with the POP Movement. Hailing from Chiapas, Mexico, his efforts have always been rooted in the state before spreading them through the country or abroad. The state of Chiapas is known for two extreme, gripping realities- that of being the poorest state in Mexico and also being one of the richest biodiverse hotspots in the world. This contrasting, yet startling truth about the region could be construed as the two major factors that influence Dr. Enrique's social sensibilities.

### **Sustainable Rebirth of the Existing Products and Systems**

Solutions for the mitigation of climate change come from the combination of science, innovation technology along with economic and environmental consciousness, and Dr. Enrique's work centers around this belief. He researches on various technologies including the development of a unique formulation of paint containing nano-particles in a colloidal suspension which can be used on buildings to absorb infrared radiation and reduce indoor temperature. His team also seeks to reduce the energy we expend on illumination to around 70% - 90% by bringing innovations in LED lamps that are designed to be used both indoors and outside in the cities. These and many other redesigned products that Dr. Enrique and his team have worked on exemplify the quality of environmental sustainability in the truest sense.

Founder and entrepreneur of many industries in the development sector, Dr. Enrique's career has been known for innovation of holistic models for sustainable development. His team has recently developed software to streamline public procurement in Mexico by digitalizing the process. This electronic public procurement system has been formulated to manage the purchase processes of governmental goods and services in a systematic manner, beginning from the purchase of goods and services until they are delivered. The software covers all forms of procurement by the government that meet the requirements of Mexican legislation. With the implementation of this technology, Dr. Enrique envisions "a better society in terms of transparency, greater participation of small and medium-scale enterprises in government procurement, lower emission of greenhouse gases with an average of 64 tons per procurement." It would also ensure real time information allowing

government decision making to become more effective and efficient and also lead to higher productivity of public servants. Ultimately, Dr. Enrique believes that, this system could stop corruption.

Marketing the products of innovation has not been an easy undertaking. The Mexican Normalization System, “Normas Oficiales Mexicanas” (NOM) created in 2003, has been propounding legislation for different public goods for the past 16 years, making it difficult for newly innovated products to enter the market. However, Dr. Enrique is optimistic in this regard. He hopes to change the minds of the ministers of the government and sensitize people using the phenomenal results that science and innovation have seen in the past years, to eventually vote out the restricting law.

### **Establishing the Crucial Connection**

Dr. Enrique’s way of connecting with people is a unique one that fulfills what society generally expects from the scientific world. All his published essays, scientific articles, research papers and authored books share a predominantly common thread of having translated scientific knowledge and discoveries that are in harmony with society to the average citizen from a non-scientific background. His television show “Experimental” on Channel 10 is a science program meant for people from non-scientific backgrounds. Dr. Enrique chuckles when he refers to his show presuming that people from the field of science will be unable to appreciate or like the show.

### **Poverty and Climate Change**

Like any other developing countries, Mexico has been facing the brunt of technological processes designed for the advancement of developed countries. When Dr. Enrique visited Canada for higher education in his youth, the comfortable lifestyle that people led and the flourishing forests and jungles of the country revealed to him an astonishing truth about his homeland. Premium quality goods and materials that were used in Canada were imported from developing countries including Mexico and Latin America where warehouses and mines thrived. This led Dr. Enrique to discover the crucial linkage between economy and the environment, which essentially came down to poverty and its linkages with climate change.

During the interview, Dr. Enrique brings to light the fact that Chiapas is the poorest state in Mexico with its poverty rate going as high as 74.7%. He says that 9 out of every 10 people in the Chiapas are poor and that they earn less than 100 American Dollars per month which is an impossible amount to survive on. He equates this heightened issue of poverty that is prevalent in the state with deforestation. Poverty stricken people are bribed by officials of the government to do economical, yet environmentally damaging activities like breaking logs and be silent about it. Chiapas is known for its richly diverse groups of indigenous population whose lack of definite occupation forces them to act against their inherent need to protect nature. Implementing sustainable occupation models is the urgent call to sustain and enrich the worst affected regions of the Chiapas in which communities are an integral part.

Dr. Enrique’s specific model of sustainable occupation for the poor is based on the global market for essential oils. He says, “The physical characteristics of land, water, altitude, weather and climate of the different regions of the state of Chiapas are conducive to planting and extraction of essential oils from herbs like lemongrass, rosemary, fennel, lemon, orange, lime, lavender and oregano.” His team uses technology to enhance this potential. With mobile machinery for extraction being designed and moved to fields where aromatic plants are produced, high costs of moving raw materials are avoided. Dr. Enrique’s innovation looks to reach the high production capacity of aromatic plants in the Chiapas. In association with the local community, this project is set under a timeline of 5 years which will then be taken forward according to the decisions of the farmers. This

is seen to improve the economic condition of the farmers in a particular region as well as contribute towards environmental restoration.

### **Corruption and its Manifestation**

Dr. Enrique says that in the last 50 years, Chiapas has lost 70% of its forest area with around 111,097 acres to 173,000 acres (45,000 - 75,000 hectares). Enterprises from Canada and around the world set up in the state, have been playing a large role causing economic and environmental degradation. Corporate giants like “Coca Cola” have been disputably using up the clear water resources in regions like San Cristóbal and selling water in bottles. Aside from the glaring irony of this issue, what bothers Dr. Enrique is the subsequent substantial increase in the use of PET water bottles. He also disapproves of agricultural companies like “Monsanto” whose pesticides and herbicides with the likes of glyphosate that have been manufactured in Europe, find their place in countries like Mexico where they destroy the natural conditions of the environment.

According to Dr. Enrique, corruption is the only possible reason for problems like the above-mentioned ones. He says, “I think these enterprises can produce better products without toxic materials, be better businessmen and invest in best ecological products. They can do it. But only if they change their minds that earning money by killing people is not okay.” He believes in eliminating this issue by bringing awareness to people on knowing the kind of products to buy and to strive to change the minds of the stakeholders.

### **The POP Movement - One of a Kind**

He finds his association with the POP Movement special, as he believes that unlike any other climate organization the POP Movement involves community participation in the truest manner to mitigate the impacts of climate change. The POP Festival scheduled on the 15th and 16th of May in San Cristóbal is the first of its kind in Chiapas. Being thrilled about organizing such an event for the first time, Dr. Enrique is excited about how things are unfolding. Now more than ever, people are beginning to understand the situation better and are making earnest efforts to protect the planet.

According to Dr. Enrique, the POP Festival in Chiapas is going to be unique at many levels. It plans to bring together knowledge from many sectors including schools, universities, state and federal governments, the congress, industries and also from different indigenous communities from every part of the state to present and share an ocean of potential ideas and action-plans on handling the imminent issue of climate change. “We are going to be in the same place - to work, to think and to plan for a better Chiapas”, says Dr. Enrique. The festival is going to be a friendly platform for people who speak different languages and dialects and also for the ones who are differently-abled including the deaf and mute. The POP Movement aims to draw best results from the festival by making everybody feel involved and connected like it’s their own event.

In this era of technological progress, the song of innovation never falters, but moves on with a subtle crescendo. From incorporating augmented reality in the aircrafts for making it more culturally representative, to conservation and management of natural resources and paving the pathway for sustainable social and economic development, Dr. Enrique’s agenda of earth-friendly enterprises only keeps ascending. More individuals like him around the world are what our planet needs right now.