

## INNOVATION



# The Mechanical World of MR. HARNARINE

## Move over, Kitchen Aid

BY JOEL HENRY

"We have to be more nationalistic in our approach," says Mr. Rodney Harnarine.

Mr. Harnarine is a mechanical engineer, an inventor and builder of machines. For the last ten years he has been a lecturer in the Faculty of Engineering, a mold of students with an aptitude or interest in innovation. Before that he was an entrepreneur in food processing. And he was born and raised in a family of farmers.

Innovation, education, entrepreneurship, food production - if you have followed the discussions over the past decade and a half about the needs of the T&T economy you would have heard these words many times. These are solutions for an economy incarcerated in its dependence on oil and gas. And for almost his entire life, Mr. Harnarine has been quietly working and promoting these solutions both within and outside the gates of UWI St. Augustine.

His approach is deeply nationalistic.

"I want to see Trinidad grow," Mr. Harnarine says, speaking from a conference room in the Department of Mechanical and Manufacturing Engineering. He turned 70 in January of this year and no longer lectures full-time. He now comes to the campus one or two days per week.

Mr. Harnarine's work was featured in the April 2015 issue of UWI Today [https://sta.uwi.edu/uwitoday/archive/april\\_2015/article11.asp](https://sta.uwi.edu/uwitoday/archive/april_2015/article11.asp). As supervisor for students' final-year engineering projects, he (and his colleagues) oversaw the development of a remarkable cache of innovative machinery. These were items such as a coconut water extractor, a chataigne shredder, a papaya pulping device and a sourpaw seed separator.

It was exciting to see the potential in the Department and its students. But the work was unrecognised, with little support and little pathway to take it beyond the campus. Mr. Harnarine made it his mission to change this circumstance.

From 2014 to 2016 he organised three exhibitions of student projects as a way of exposing their work to the industry. He has also acted as a liaison between the campus and the manufacturing sector.

"We graduate 120 students in this department every year," he says. "If we could develop five businesses for the year and those five go out there and are successful they can employ more students."

At present, like-minded personnel at UWI St. Augustine, both within the department and the campus administration have made innovation and entrepreneurship a major priority.

Mr. Harnarine has focused much of his energy on development in the food production sector - agriculture and agro-processing. His ideal is agro-processing based, export-oriented companies that will revitalise local agriculture and add value to crops.

"We came from agriculture," he says. "Agriculture has answers to a lot of our problems."

Mr. Harnarine spent his formative years in a rural community called Agostini Settlement just south of Chaguanas. His family worked a one-acre plot of land provided by the Ministry of Agriculture. It was not an easy life.

"On that one-acre plot we used to grow vegetables and rear animals. We didn't have water. We didn't have electricity. Because our father was a labourer he didn't have much cash, so when we went to the grocery he bought the bare minimum. The rest of the money went to education, clothing and so on for the family," he says.

These conditions did not discourage either him or his siblings. Among them is an accomplished statistician with the Government of Canada, a senior doctor and of course, Harnarine himself, who became an engineer in the burgeoning manufacturing industry.

His accomplishments in the field are impressive. In 1973 he became a project engineer with CARIBU, designing and building a 200-tonne press for steel pails. From there he moved on to the

Trinidad and Tobago Bureau of Standards where he developed standards in automotive and mechanical engineering. Then he went to Neal and Massy as technical manager, in the days when cars were being assembled in Trinidad before the rise of the Japanese automotive industry.

It was in the early 1980s that he first became a lecturer at The UWI St. Augustine, spending a decade. It was during this period as well that he saw the changes taking place in the local economy. He recognised the vulnerability of T&T's reliance on oil and gas and the potential of food-based products.

"I kept telling my students there were opportunities in agro-processing," he says. "I looked at what Matoak's was doing. They were bottling pepper and mauby and shipping them overseas. I said why can't we do this but extend the backward links to agriculture even further."

For engineering students eyeing a career in the energy sector, it was a risk they were not willing to take. So he did it himself.

If you were a youngster in the 1990s you might remember "Sun Pick," a juice drink sold in powdered form. It was one of several products manufactured by Chase Foods Limited, Rodney Harnarine's agro-processing company. Chase Foods was established in 1993, an almost total one-man operation that manufactured beverages, canned fruits and vegetables, peanut butter, jams, sauces and condiments for both the domestic and export markets. Much of the operation's machinery was designed and built by Harnarine himself, including a 200-pound capacity peanut roaster.

During this period as well he became Chairman of the National Agricultural Marketing and Development Corporation (NAMDEVCO), an agency tasked with the commercial expansion of food production.

At its core the idea of Chase Foods was strong. There was demand for his products both at home and abroad. The banks approached him to support the venture. There was buy-in from the

groceries and supermarkets. But ultimately, after about a decade, he had no choice but to sell the company and get out of the business.

There were many reasons, some common to all small or medium-sized businesses. But there were others that help explain the almost aggressive malaise that has impeded diversification. Put simply, there are powerful, well-placed players in the marketplace. Harnarine calls them "the big fellas". Any strategy for diversification in areas such as manufacturing or food production must reckon with these forces. What kind of impact do they have on the business environment? How are they influencing economic policy? If the nation needs its manufacturing sector to grow and earn foreign exchange and the big fellas need a liberalised trade environment to maintain or increase profits, how are these interests reconciled?

During that 1990s period many agro-processing business rose and fell because of the challenges in the environment. It was the kind of new economic activity that business associations and policymakers claim to want and they were smothered in a hostile marketplace.

"We need new thinking but the system does not allow that," Harnarine says.

Yet he hasn't given up. It has been a decade since his return to UWI and even as his time on campus has been reduced he still believes in the potential of agro-innovation and the university's role in fostering it.

And even with more free time he is still busy. Mr. Harnarine is an elder in the Presbyterian Church and a member of its various boards, including those of its network of 75 elementary schools and five colleges. He's also still planning new ways to take advantage of agro-processing opportunities.

"Now that I'm out of the system I will start building machines and producing," he says.

After working so hard for so many years, how does he maintain this pace?

"I grew up on a farm. It was hard work. It became a part of me."

