



BEHAVIOURAL SCIENCE AND THE ART OF SUGARCANE FARMING

Poovie Govender

Reflections on the SASTA keynote address

My mind wanders over to the coast of Queensland, Australia. I dream of the many multicoloured underwater plants and creatures that inhabit the world's largest coral reef. I have read somewhere that the Great Barrier Reef is so large that it can be seen from outer space. I mentally add it to my bucket list of places to visit.



John Pickering

A major threat to this natural wonder of the world is the pollution emanating from farming operations in the region. Water run-off from agricultural land carries chemical nutrients, herbicides and pesticides which pose a health risk to coral life. Enter Behavioural Scientist, Dr John Pickering, an expert in systems level-thinking and behaviour change frameworks. Dr Pickering, the keynote speaker at this year's online SASTA Congress, enthusiastically showed how behavioural science is helping to alleviate this environmental crisis.

For the longest time, sugarcane farmers in Queensland were seen as the culprits causing harm to the reef. Government applied immense pressure on farmers to adopt sustainable Best Management Practices (BMPs) and to register with the SMARTCANE BMP programme. SMARTCANE BMP is an Australian sugar industry-developed programme for documenting, benchmarking and improving on-farm practices. Adoption of SMARTCANE BMP by farmers, however, was low. John Pickering and his team from the behavioural science company, Evidn, were brought in by the Australian Canegrowers Association to facilitate widespread uptake of the SMARTCANE BMP programme. The Evidn team, led by Dr Pickering, has vast experience in working with communities to bring about change at a national level, and they firmly believe that most of the problems in agriculture (or any other industry) are "people problems".

Through the aptly named Project Cane Changer, John and his team conducted a behavioural systems analysis of the situation, and then set up processes involving various industry stakeholders. Much effort was directed at understanding resistance to change, i.e., the group did not focus only on what motivated change, but also examined obstacles to change. In the case of sugarcane farmers, the resistance to change was the feeling of being vilified and portrayed incorrectly. They considered themselves to be innovative and committed to sustainable practices. Many were already engaging in correct practices on their farms.

Project Cane Changer was carefully designed to reduce resistance to change, build capacity and publicise successes. Workshops involving the entire family helped to improve record-keeping capabilities (a requirement for accreditation) and to ensure succession planning (to bring the value of sustainability into focus). Public perceptions of sugarcane farmers were improved through various media interventions where farmers who became SMARTCANE BMP accredited were recognised and celebrated.

The success of Project Cane Changer is unquestionable. In one region, SMARTCANE BMP adoption (and accreditation) increased by an astounding 509% since Project Cane Changer commenced in 2016. The project has since been extended to several regions in Australia, and the model has also been replicated in maize farming enterprises in America.

This SASTA keynote presentation has left us with much to deliberate on. In her response to the address, Independent Chairperson of the South African Sugar Association, Sindi Mabaso-Koyana, thanked Dr Pickering and his company Evidn, highlighting that this topic was most relevant and timely in the context of the sugar industry's master plan, which will require behaviour change and adoption at multiple levels in the industry. "The unmatched insights from the pioneering Dr John Pickering are absolutely critical and epoch-making for the South African sugar industry. Thank you for sharing those extremely interesting and important experiences and lessons from Down Under. I totally agree with Dr Pickering that human behaviour is the crucial factor which determines failure or success. Through our behavioural patterns, we are authors of our very own destiny... we can either build or destroy our future right now," said Mabaso-Koyana.

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Mabaso-Koyana cited the all-important master plan as an example of a process which required a change in behaviour in order to save the industry from the brink of collapse. "A heterogenous group of stakeholders representing different agendas and interests came together under one roof to find a homogeneous path to save the industry from the precipice. Our industry was in ICU, with some referring to our condition as 'critical but stable'... medically speaking, such condition is life threatening and, in our case, the very continued existence of the industry was at great risk. It was akin to an imminent multi-organ failure which could only be averted by the in-the-nick-of-time intervention, even a miracle!"

She added: "All stakeholders came to the party as they tackled stumbling blocks and came up with solutions which would lead to a thriving and growing industry. The end result was a master plan which has seen all role-players embracing the need for change and reforms in order to ensure the sustainability of the industry."

Dr Pickering is scheduled to visit the country next year (Covid-19 conditions permitting) courtesy of a SASTA International Visitors Grant. The intention is to run industry events to explore behavioural problems that science, engineering or technology have not yet been able to resolve. We look forward to exploring behavioural science solutions to our very own brand of "people problems".

Poovie Govender is a SASTA Council Member and SASRI Knowledge Products Specialist