How SA tech startups can improve rural communities

By Scott Zambonini

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Approximately one third of South Africa's population resides in rural areas where the realities of poverty, unemployment and the related social problems are faced on a daily basis. Social entrepreneurs are those whose core business focus is to provide innovative solutions to social problems such as rural healthcare, welfare and employment with the ultimate outcome being the establishment of a virtuous cycle of prosperity.

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In the cases of very poor communities, innovative technology coupled with the mass adoption of smartphones can play an extremely positive role in achieving a social entrepreneurial vision. Today developments and innovations in several different areas are setting the pace for aspiring social-tech entrepreneurs and rural development agencies.

Rural internet connectivity

Since its large scale adoption, the internet has become the urban world's go-to for information, services and knowledge. In most rural settings, however, this is not the case - largely due to the lack of internet service provision to rural areas. According to Statistics South Africa's General Household Survey (GHS) 2014, almost half of South African households (48.7%) had at least one member who used the internet. Yet only 0.8% of the population living in rural areas in the Eastern Cape have an internet connection at home, while 21.6% used mobile devices. Another 6% used internet cafés and 1% had access to the internet at educational facilities.

Tech solutions in this realm can offer rural communities access to a world of information beyond their imagination, while enabling self-learning, development and access to things like healthcare and education.

Rural healthcare

Healthcare in urban centres is easy to access and something we take for granted every day. In rural settings however, individuals and communities struggle to obtain even a basic diagnosis or treatment for mild conditions, let alone life-threatening ones.

The remote locations of rural communities make access to clinics and doctors difficult, so tech innovations to help bridge the gap are in high demand. One possibility to solve this would be the means to communicate diagnostic data collected in the rural area directly to an urban-based doctor via a portable medical device. This allows for real-time interaction between an urban-based doctor and rural patient.

Another idea which stems from this would be the remote dispatching of the required medicinal supplies via a courier drone. The drone company, Zipline, is currently partnering with international aid organisations to use their drones to deliver food and medical supplies to rural Rwandan communities. There is no reason why South Africa cannot use the same idea.

Technology-based education

Access to education is a human right which has not been fully realised in rural communities. Book shortages, underqualified teachers, long commutes and poor facilities largely contribute to this dilemma, which often leaves youthful individuals in remote areas with little to no hope.

The recent advent of massive open online courses has allowed millions of individual's access to free education from the likes of Harvard and MIT. Social-techno entrepreneurs have the opportunity to enable relevant teaching through innovative solutions such as the Samsung Solar Powered Internet School initiative. Here smart schools make use of technology through the use of mobile devices, e-boards and educational software in order to offer improved learning experiences to children and young adults. The units come completely self-contained with solar generators and wireless communication, providing unlimited access to technology, communication and information as long as there is sunlight to power the solar panels, digital cellular network or satellite connectivity.

Virtual reality

Virtual reality (VR) has long been a dream for the future and science fiction obsessed. VR can be defined as 'a computer-

simulated reality that replicates an environment which simulates a physical presence in places in the real/imaginary world, allowing the user to interact in that world through artificially created sensory experiences'.

This emerging technology can allow for rural community members to experience a reality outside of the hardships of their own. This type of escape, when used correctly, can provide mental stimulation and a means to cope with one's current environment without being lured into the prevailing distractions of gang and crime-related activity. 'VR for education' applications, which provide an educational experience, will be of high value and allow rural children to participate in virtual classroom activities from any location for personal and cognitive development.

The above mentioned are achievable technology concepts for sustainable socio-economic development that could ideally grow and develop rural areas, and ultimately offer outlying communities a better quality of life.

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