

Research Managers at Jamaica's National University are Strategically Deploying a Modest Research Development Fund in Support of Impactful Research

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ABSTRACT

The purpose of this paper is to highlight, using examples, how the University of Technology, Jamaica (UTech, Jamaica) is strategically using a modest internal research development fund, which is managed by the research managers in its research and innovation management office, to support impactful research projects. Critical reflection and the scholarship of integration are used in describing, making connections, and analyzing the “pathways to impact” (where evidence of the translation of research into impacts is usually manifested) of the internally-funded research projects. The role of the research managers, as helpful intermediaries, and the lessons learned are also discussed. The societal impact of these exemplary projects is clearly demonstrated. Presenting these examples is consistent with one of the key functions of research managers, which is to highlight the extent and nature of their institution’s research work, ensuring the effective dissemination of research findings, and building public support for research.

INTRODUCTION

The University of Technology, Jamaica (UTech, Jamaica), which is the publicly-funded National University of Jamaica, is committed to conducting high-impact, inter-disciplinary, and applied research in focal areas derived from the specialized disciplines within the university and relevant to economic and social problems of the Jamaican society. This is ensured by aligning research activities with national goals and priorities for development as articulated in the country's long-term development plan, Vision 2030 Jamaica (Planning Institute of Jamaica, 2009).

In other words, UTech, Jamaica has positioned itself to produce impactful solutions to economic and social problems via research (Ivey, Henry, Beckford, & Streete, 2015). The university was established by Act of Parliament in 1999 as an upgrade from college to university of the College of Arts Science and Technology (CAST) which had been operating since 1958 as a polytechnic-type training institution. The "objects" of the new university would be to:

(a) advance education and development of technology through a variety of patterns, levels and modes of study and by a diversity of means by encouraging and developing learning and creativity for sustainable development for the

benefit of the people of Jamaica, the Caribbean, and elsewhere;
(b) preserve, advance, and disseminate knowledge and culture through teaching, scholarship and research;
(c) make available the results of such research and service; and
(d) promote wisdom and understanding by the example and influence of corporate life.

The powers granted to the University of Technology, Jamaica, included the power "to make provision for research and research training for the preservation and advancement of knowledge in such manner and through such media as the University may determine" (University of Technology, Jamaica Act, 1999, pp. 14-15).

In this paper, we cite three examples of how UTech, Jamaica is strategically using a modest internal research development fund, managed by its research and innovation management office in areas of strength, to advance its mandate and status as a university.

THE RESEARCH MANAGEMENT ECOSYSTEM AT UTECH, JAMAICA

The School of Graduate Studies, Research & Entrepreneurship (SGSRE), established in 2007, operates UTech, Jamaica's research and innovation management office. According to the Association of Commonwealth Universities (ACU, 2006), research management

comprises a distinct suite of activities separate from the conduct of research itself. As stated by Langley and Garnett (2015), “research management and administration have developed in line with the trends affecting research itself, which has seen growth in scale, complexity, and management burden” (p. 16). Further underscoring the important role of research managers, the European Commission described the profession as a “critical enabler” of its research and innovation goals, which are directed at achieving growth, impact, and sustainability (Langley & Garnett, 2015).

The SGSRE is headed by a Vice President, who holds the rank of Professor. Other staff members include a Manager of Projects and Operations, two Associate Vice Presidents, a Graduate Studies, Research & Entrepreneurship Officer, an Executive Assistant, and Administrative Support personnel. The SGSRE “guides and supports research activities as directed by the research mandate of the university. The research mandate aims to promote applied and commissioned research that will provide solutions to societal needs” (Ivey et al., 2015, p. 8).

At UTech, Jamaica, the SGSRE has been designated “owner and driver” of the university’s strategic research-related initiatives, and is required to provide performance status reports on them at monthly meetings of the university’s

executive management committee. Supporting the work of the SGSRE are College/Faculty Graduate Studies, Research and Entrepreneurship Coordinators (C/FGSRECs) serving as the critical link between the SGSRE and the various academic units within the university (University of Technology, Jamaica, Research Policy, 2009, p. 3; School of Graduate Studies, Research and Entrepreneurship, 2014).

RESEARCH DEVELOPMENT FUND

Recognizing the importance of research to its legitimacy as a university and the benefits that will accrue to its proximate stakeholders from its research findings, if it remains faithful to its mission, UTech, Jamaica, through the SGSRE, has implemented several initiatives and provides a suite of support services aimed at encouraging staff involvement in research. Among these research support services is the provision of funding for the following:

1. Research projects
2. Peer-reviewed journal publication fees
3. Protection of intellectual property, and
4. Capacity building of research skills

Funding for these activities is provided through a research development fund (RDF). The RDF was originally established in 1998 to stimulate a research culture and build the university’s research capacity

(Ivey, Henry, & Oliver, 2014; Onyefulu & Ogunrinade, 2005). At inception, the fund supported only research projects. However, in response to the increasing needs of staff for greater levels of support, and in keeping with the university's research agenda, the RDF has subsequently been revised a number of times to ensure its relevance.

The revisions of the fund reflect contextual awareness on the part of UTech, Jamaica's research managers. That is, recognizing that research management is primarily about people, they keenly monitored feedback and output from the researchers (their clients) to inform action. For example, when the results of staff research were evaluated and showed commercial potential, the RDF was revised in 2013 to include support for protection of intellectual property, in particular industrial property. Shaping institutional strategies is among the functions of research managers (Research Africa, 2013).

As a publicly-funded institution, UTech, Jamaica operates in a financially-challenged environment. The provision for the research development fund has remained flat at \$J10 million (\$J1: US\$117) per annum for the last three years. The university receives no specific research grant from the Jamaican Government and the country does not have a national research fund, as is the case in many other countries, from which competitive research grants can be obtained by its researchers. UTech, Jamaica's internal

research development fund is carved from the general income of the institution, which is predominantly made up of student fees and state subvention, and must compete with other pressing demands for budgetary support. This reality constrains research managers to ensure that the research development fund is strategically deployed to support research and scholarly activities that are relevant to economic and social problems of the Jamaican society while building the research capacity of the relatively new university. This strategic deployment is a deliberate posture adopted to ensure that benefits accrue to proximate stakeholders of UTech, Jamaica whom Ivey et al. (2014) identified as the taxpayers of Jamaica.

Key criteria used to evaluate submitted proposals for funding through the RDF are:

1. Relevance
2. Scientific merit
3. Feasibility
4. Cost-effectiveness, and
5. Knowledge and experience of the researchers (Research Development Guidelines (revised), University of Technology, Jamaica, 2013).

EXAMPLES OF THE IMPACTFUL RESEARCH SUPPORTED BY THE RESEARCH DEVELOPMENT FUND

Research Councils UK (2007) defined research impact as "the demonstrable contribution that excellent research makes

to society and the economy; research impact embraces all the diverse ways that research-related skills benefit individuals, organizations and nations” (p. 14). In addition, Research Councils UK cited the following areas, referred to as “pathways to impact,” where evidence of the translation of research into impacts is usually manifested:

1. Human capital,
2. Business and commercial,
3. Policy, and
4. Quality of life.

With specific reference to all four of the above-mentioned “pathways to impact,” we now cite in this section three examples of how the research development fund at UTech has been strategically used to support impactful research work of the institution. Highlighting these examples is consistent with one of the key functions of research managers, which is to highlight the extent and nature of their institution’s research work, ensuring the effective dissemination of research findings (Research Africa, 2013). The three examples are:

1. HIV Drug Resistance Surveillance among Jamaican Men who have Sex with Men
2. Do Healthy Foods Cost More than Less Healthy Options in Jamaica?
3. Modular LED Lighting System for Street Lighting

Example 1: HIV Drug Resistance Surveillance among Jamaican Men who have Sex with Men

In Jamaica, HIV prevalence among the general adult population is 1.8%, whereas the HIV prevalence among men who have sex with men (MSM) is estimated to be 38% (UNAIDS, 2013). Homelessness, incarceration, unemployment, and rape are the leading negative social experiences that contribute to high HIV prevalence among MSM in Jamaica (Figueroa, Cooper, & Edwards, 2015).

One of Jamaica’s leading HIV researchers works in the Biology Division of UTech, Jamaica’s Faculty of Science & Sport. She holds a Ph.D. in Biotechnology and, in addition to further post-graduate studies at Johns Hopkins University School of Public Health, has also been a Fogarty Postdoctoral Fellow in the University of Maryland’s Institute of Human Virology.

In 2013, the HIV researcher applied for a grant through the UTech, Jamaica’s research development fund, to carry out research work on “HIV Drug Resistance Surveillance among Jamaican Men who have Sex with Men.” On evaluation, the research managers determined that the project met all of the eligibility criteria and approved it for funding. An additional attractive feature of the proposal was local and international collaboration with researchers from, and co-funding by, the University of North Carolina (UNC), where analyses of blood

samples would be done at the Center for AIDS Research and Department of Microbiology and Immunology at the University of North Carolina School of Medicine, as well as the University of the West Indies (UWI), Mona, Kingston, Jamaica.

The research work was recently completed and the findings published in the article, "HIV Drug Resistance Surveillance among Jamaican Men who have Sex with Men should be prioritized for Reducing HIV Transmission." The article, which was co-authored with collaborators from UNC and UWI, was published in the May 2015 issue of *AIDS Research and Human Retroviruses* (DOI: 10.1089/AID.2015.0040). The title of the paper reflects its overarching recommendation regarding the implications of the findings on how policy makers should approach the formulation of HIV-reduction initiatives in Jamaica.

The paper's authors noted in its abstract that:

The prevalence of human immunodeficiency virus type 1 (HIV-1) is highest among men who have sex with men (MSM) in Jamaica, but no genotypic data is available on the virus strains that are responsible for the epidemic among this key population. HIV-1 polymerase (pol) genes from 65 MSM were sequenced and used to predict drug resistance mutations. HIV drug resistance prevalence of 28%

(minimum 13%) was observed among this cohort, with the most frequent mutations conferring resistance to efavirenz, nevirapine and lamivudine. Phylogenetic analysis of the sequences revealed 10 times the number of linked HIV infections among this cohort than respondent reporting. HIV treatment and prevention efforts in Jamaica could benefit significantly from Pol genotyping of the HIV strains infecting socially vulnerable MSM prior to initiating antiretroviral therapy (ART), as this would guide suppressive ART and unearth HIV transmission clusters to enable more effective delivery of treatment and prevention programs.

Having regard for the significance of this work's findings and their potential impact through the pathway of policy, UTech, Jamaica's research managers are in communications with the researcher and her collaborators to agree on effective strategies for ensuring that these findings reach policymakers in the Ministry of Health and other organizations providing services to the MSM community. Highlighting the extent and nature of a researcher's work at a particular institution and ensuring the effective dissemination of research findings are among the suite of functions of research managers (Research Africa, 2013).

This research project has also had an impact on human capital in that the UTech, Jamaica staff member experienced considerable capacity building from the collaboration with other HIV researchers and also from a 3-month sabbatical in a First-World research environment at the University of North Carolina. Huang (2014) noted that “capacity building is a process in which individuals, groups, and institutions enhance their abilities to mobilize and use resources in order to achieve their objectives on a sustainable basis” (p. 93).

After all, capacity building is not unrelated to the Human Capital Theory advanced by Nobel prize-winning economist T. W. Schultz, who posited that human capital represents human abilities and information that have value (Schultz, 1981). Schultz (1981) further asserted that “increases in the acquired abilities of people throughout the world and advances in useful knowledge hold the key to future economic productivity and to its contributions to human well-being” (p. 31). It was vital for Jamaica to have this staff member build her research capacity to more effectively study HIV. The ultimate aim of strengthening research capacity is to empower and facilitate researchers to engage in research relevant to the societies in which they live (Aslanyan, 2015).

The value inherent in the strategic local and international collaborations among the researchers who conducted the research on

“HIV Drug Resistance Surveillance among Jamaican Men who have Sex with Men” is worthy of comment. A report titled *Knowledge, networks and nations: Global scientific collaboration in the 21st century* (Royal Society, 2011) emphasized that collaboration often enhances the quality, efficiency, and effectiveness of research and other undertakings by universities (Royal Society, 2011). As a concept in development thinking, the notion of research partnerships and other collaborative partnerships has been debated for decades (Research Africa, 2013).

Collaborative partnerships are, in reality, social networks predicated on the implicit assumption that the interacting partners gain from their interactions. One key advantage of social networks is the formation of relational capital, which can be a crucial enabler of knowledge creation and transfer. Knowledge residing in a social network is greater than and different from the sum of the knowledge residing in individual members (Burt, Kilduff, & Tasselli, 2013; Huang, 2014). In addition, according to Harle (2015), “some of the most creative solutions are found when people come together across their professional boundaries, combining knowledge and skills to tackle problems in which they both have a stake” (p. 3).

Oftentimes in a developing country context, lack of human capacity is a major barrier to progress in crafting solutions to

local problems. The UTech, Jamaica staff member has self-reported significant knowledge enhancement from the collaborative partnership among her institution, UNC, and the UWI.

In summary, the pathways to impact of this RDF-supported research project are through HIV treatment policy and human capital enhancement.

Example 2: “Do Healthy Foods Cost More than Less Healthy Options in Jamaica?”

We now look at the second example of how the research development fund at UTech has been strategically used to support impactful research work of the institution.

The Caribbean has moved from under-nutrition and communicable diseases to over-nutrition and chronic non-communicable diseases (CNCDs) as the major public health problems over the last several decades. The region has seen great improvements due to immunization coverage which has resulted in the eradication of several communicable diseases (e.g., poliomyelitis; last outbreak, 1982), measles (no cases diagnosed since 1991), and rubella (no cases diagnosed since 2002) (Fray-Aiken, 2014).

Like the rest of the Caribbean, Jamaica has changed from under-nutrition and communicable diseases as the major causes of death and disability to CNCDs over the last five decades. Obesity as a contributing

factor linked to diet is on the rise. Citing a World Bank study, a story in the Your Health section of *The Gleaner* newspaper reported that 60% of Jamaicans aged 35–74 were either overweight or obese. “Obesity is the most prevalent chronic disorder in Jamaica,” according to the country’s acting chief medical officer (CMO) who was quoted in the article. And obesity, the CMO warned, ultimately leads to chronic non-communicable diseases which account for 70% of all deaths in the country (Cunningham, 2014).

In light of the clear correlation between diet and health, and Jamaica’s straitened economic circumstances made more acute under a four-year extended fund facility (EFF) with the International Monetary Fund (IMF), a team of researchers from UTech, Jamaica’s College of Health Sciences submitted a research proposal for funding through the RDF to investigate whether it would be possible for persons to afford to consume healthy food options compared with less healthy options.

Taking into account the established criteria against which proposals are assessed and the potential impact on public policy of this study’s findings, the proposal was approved for funding. An additional important value-adding dimension to this research project was the inclusion of undergraduate students as research assistants who would be trained in data collection techniques.

On completion of the study, one of Jamaica's morning daily newspapers, the *Daily Observer*, interviewed the lead researcher and carried a page 2 story in its Sunday edition a few days before UTech, Jamaica's annual Research, Technology, and Innovation Day (RTID). RTID is a one-day showcase of cutting-edge applied research and innovation being undertaken by the university with the objective of significantly impacting areas of national development (Brown, 2015; Ivey et al., 2015). The interview with the *Daily Observer* and other interviews were arranged by UTech, Jamaica's Research Management Office, SGSRE, and the university's Corporate Communications Unit.

Interestingly, and as journalists are wont to do, the reporter from the *Daily Observer* gave the story the reader-catching title, "Review minimum wage, UTech professor urges." This title was inspired by the fact that the research findings indicated that, for a family of three, the cost of a healthy meal in Jamaica equated to approximately all of the weekly official minimum wage, prompting the study's lead researcher to suggest that a revision of the minimum wage was necessary.

Soon after this piece of research was publicized in the press, the Senior Economist and Policy Analyst of Jamaica's Consumer Affairs Commission (CAC) made direct contact with UTech, Jamaica through

the SGSRE, to express congratulations and to further state that:

The CAC would appreciate being added to the list of stakeholders to whom the survey findings will be circulated. We also would appreciate the consideration of a possible collaboration or partnership with respect to future research and providing consumers with nutritional information. We believe that such information sharing can assist consumers in making more informed choices towards having much healthier diets. We would like to also take this opportunity to invite you to join the global voice of consumers, Consumers International, in its March 15, 2015 World Consumer Rights Day campaign to reduce Non-Communicable Diseases (NCDs) worldwide under the theme: "Healthy Diets" (Chambers, 2014).

UTech, Jamaica's Research Management Office immediately dispatched a copy of the research findings to the CAC, and dialogue commenced among representatives of both organizations to discuss and agree on the specifics of collaborative actions. Arising from the discussions, it was agreed that UTech, Jamaica would make the research findings available to the CAC for posting on the latter's website so that they would be accessible to the public. Here we see one of the further benefits to a university of having a dedicated research management office

with which interested persons may engage in order to obtain information about the research work of the institution.

In addition to the CAC, a leading international food manufacturing and distribution company, operating in Jamaica, has expressed interest in the research findings and has offered sponsorship to continue the research, student training, and public education regarding healthy food choices. What this shows is the spawning of a university-industry engagement as a direct consequence of the research, “Do Healthy Foods Cost More than Less Healthy Options in Jamaica?”

Below is the abstract for this study, findings from which have subsequently been accepted for publication in a medical journal:

Several studies have evaluated whether healthier foods or diets cost more, but a full range of health criteria has rarely been explored. Rather than merely comparing high and low energy dense foods, this study also included type of fat, vitamin, mineral and fibre content of foods in classifying them as healthy and less healthy. Commonly consumed foods were ranked according to their nutritional value and potential positive or negative contribution to the development of major health problems in Jamaica such as obesity and chronic diseases. The costs of 158 food items were averaged from supermarkets,

municipal markets and wholesale outlets in six parishes across Jamaica. Cost differentials were then assessed in comparing healthy and less healthy foods. The study found that among the commonly consumed foods in Jamaica healthy options cost J\$88 more than less healthy ones. The cheapest daily cost of a nutritionally balance diet in Jamaica varied considerably by parish but was on average J\$269. For a family of three, this translates approximately to the total minimum wage per week.

Concerning pathways to impact, this RDF-supported research project has the potential to influence both the minimum wage and nutrition policy in Jamaica, and also the quality-of-life of hundreds of thousands of Jamaicans from the lower socio-economic strata of the society. According to the Jamaica Survey of Living Conditions (JSLC) for 2012, the most recent available, 19.9% of the population of 2.7 million was living in poverty (Statistical Institute of Jamaica, 2014).

Example 3: Modular LED Lighting System for Street Lighting

We now cite the third example of how the research development fund at UTech has been strategically used to support impactful research work of the institution.

Jamaica, like the majority of Caribbean states, has a high dependence (over 90%) on imported petroleum for meeting its energy needs. In 2014, the country spent more than

US\$2 billion on the importation of crude oil and petroleum products. This was more than 30% of the value of all imports, and more than 100% of export earnings (Ministry of Science, Technology, Energy and Mining, Jamaica, 2015). This large import bill for petroleum products has adversely impacted Jamaica's economic and social development.

The urgent need for solutions to Jamaica's energy dilemma has resulted in UTech, Jamaica identifying "energy" as one of its research focus areas. In keeping with this focus, a team of researchers from the Energy Unit/Energy Research Group within UTech, Jamaica's Faculty of Engineering and Computing (FENC) was motivated to conduct research on the re-engineering of conventional high pressure sodium (HPS) vapour street lamps with light-emitting diodes (LEDs).

Recent developments in LED technology have yielded promising alternatives that have several advantages over HPS lamps for outdoor lighting. These advantages include: significantly longer life (50,000 hours or more, compared with 15,000–35,000 hours for HPS); better lumen maintenance; lower energy consumption per required surface luminance; and reduced maintenance and operating cost. Still other advantages of the LED technology compared with HPS include no mercury, lead, or other known environmentally hazardous materials

(Wilson, Reid, Baker, & University of Technology, Jamaica, 2014).

A proposal from the team of researchers from the Energy Unit/Energy Research Group within UTech, Jamaica's Faculty of Engineering and Computing (FENC) to conduct research on the re-engineering of conventional high pressure sodium (HPS) vapor street lamps with light-emitting diode (LEDs) technology was received and evaluated by the research managers within the SGSRE. Judged against the criteria of relevance, scientific merit, feasibility, cost-effectiveness, and knowledge and experience of the researchers, the research project was subsequently approved for funding through the research development fund.

This research project resulted in novel findings that, upon evaluation by the research manager with responsibility for intellectual property management, led to the submission of an application in March 2014 to the Jamaica Intellectual Property Office (JIPO) for a patent for this work. Not only was this piece of research supported by UTech, Jamaica's Research Development Fund, but the costs related to obtaining protection of the resultant intellectual property were also covered by the Fund.

Applying for patent protection for the novel findings arising from this research project is a paradigm-shifting development at UTech, Jamaica. In the past, researchers at UTech, Jamaica were content with

publishing their research findings in a peer-reviewed journal or presenting the results at a conference, and stopping there. Open science/open exchange through publications is but one of the ways universities transfer knowledge to societies. Other ways include collaboration, venture creation, trained graduates, and licensing of technology (Alange, Lundqvist, Scheinberg, & Norgren 2009; Association of Universities and College of Canada, 2014).

Knowledge transfer (KT) is the process of transferring know-how from governments or universities and other institutions to ensure that scientific and technological developments are accessible to a wider range of users who can then further develop and exploit the technology into new products, processes, applications, materials or services. Effective management of intellectual property (IP) is central to the knowledge transfer process. Terminology commonly used to refer to knowledge transfer includes: translation, exchange, utilization, implementation, diffusion, distribution, and management; as well as many combinations such as “research transfer,” “research utilization,” or “knowledge utilization” (Graham, 2008). According to Gera (2012), the stages of the knowledge transfer cycle are: creation, adaptation, diffusion, reception, adoption, and utilization.

Knowledge transfer is increasingly seen as part of the core mission of universities.

Universities serve the public interest through education and research, and are now expected to address the third mission of knowledge transfer. That is, as knowledge-creating entities, universities are a key source of knowledge/technology transfer to society.

So, recognizing that intellectual property is output from the knowledge generation process and is input into the value creation process, UTech, Jamaica’s research managers facilitated the application for the patent and are now involved in negotiating licensing of the novel LED-technology to a private-sector company. This is consistent with another function of research managers, which is to facilitate intellectual property (IP) management and appropriate technology transfer (Research Africa, 2013). Therefore, the Modular LED Lighting System for Street Lighting research project also afforded UTech, Jamaica’s research managers the opportunity to engage in practical IP management and technology transfer, and, in the process, building their own capacity and accreted experience.

Submitting an application for patent protection and engaging in licensing negotiations with a private-sector company with the aim of taking the results of this RDF-supported research project from “lab to market” holds extremely important lessons for other researchers at UTech, Jamaica, students at the university, and the

wider Jamaican society. To begin with, the actions taken together represent a “live” demonstration of the process of converting science into tangible value that has income-earning potential. That is, the following steps in the innovation process are made obvious:

1. Knowledge creation through research
2. Value-capture through evaluation of research results
3. Intellectual property protection of novel research findings through application for a patent
4. Commercialization of novel research findings through negotiation of a licensing agreement.

In addition, the actions also show UTech, Jamaica taking the important step of transitioning into being an “entrepreneurial university” beginning to embrace “academic capitalism,” along the lines articulated by Clark (1998, 2004, 2005) and Gjerding, Wilderom, and Scheunert (2006), who discussed the characteristics of entrepreneurial universities. Alange et al. (2009) also discussed the opportunities and experiences of entrepreneurial universities, citing the following examples:

1. Europe (Chalmers University of Technology, Sweden; University of Leuven, Belgium; University of Alicante, Spain; and Imperial College, UK).

2. Israel (Weizman Institute and Technion University).
3. USA (MIT and Louisiana State University)

Concerning impact, the RDF-supported Modular LED Lighting System for Street Lighting research project will demonstrate this via the business and commercial pathway with the consummation of a licensing agreement for commercialization of the LED-retrofitted street lamps. Oftentimes, universities are usually involved early in the innovation cycle, through research, with industry playing a later role in development and/or commercialization of the research results. It is not difficult to see, therefore, how intellectual property generated from research becomes input for value creation.

CONCLUSION

Despite serious budgetary constraints and the absence of any specific financing dedicated to research at the University of Technology, Jamaica, the university, a relatively young university-level institution, from its inception has carved out of its income a small research development fund. The Fund supports both the research and public service mandates of the university which are anchored in its founding charter.

The RDF, for the last few years running at only J\$10 million (approximately US\$85,500) annually, has been strategically managed by the research managers working

out of the School of Graduate Studies, Research and Entrepreneurship (SGSRE) in support of impactful research and the building of research capacity. The Fund has supported not only straight research projects by competitive application, but has paid for publication fees and for the protection of intellectual property rights, and has supported capacity building of research skills.

This paper has presented three recent high-impact examples of projects that have been supported by the RDF of the

University of Technology, Jamaica. The societal impact of these exemplary projects has been clearly demonstrated.

Highlighting these examples is consistent with one of the key functions of research managers, as noted by Research Africa (2013), which is to highlight the extent and nature of their institution's research work, ensuring the effective dissemination of research findings, and building public support for research.

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