

CHAPTER III

FUNDING THE ACADEMY: CHALLENGES AND SUCCESSES

Governments' Budgetary Support and Tuition Fees

Except for retroactive salary provisions, the contribution from the Government of Jamaica to The UWI, Mona Campus during the 2011/2012 academic year remained unchanged from the previous year. This, viewed in the context of major reductions in support in each of the previous two years, combined with the ongoing economic challenges across the Region, created a very difficult financial environment in which the Campus had to operate. This situation however, further strengthened the Mona Campus' resolve to advance critical capital projects towards the achievement of key strategic financial goals of income growth and diversification of revenue streams.

Further compounding the Campus' financial difficulties throughout 2011/2012 was the slow and unpredictable nature of inflows from tuition fees. The Campus in recognising the challenges faced by many students allowed payment of fees in instalments through formal arrangements with individual

students. Many students took advantage of this option, while many did not. The result was a significant increase in student receivables at the end of the financial year to 15% of fees billed, evidence of a growing financial risk to the Mona Campus.

Additionally, the 2011/2012 academic year saw more students from tertiary institutions seeking tuition loans from the Students' Loan Bureau (SLB). This trend was consistent among students at Mona, where the SLB accounted for 21% of billed tuition revenues. However, the growing demand on the SLB amidst its significant resource constraints meant very late disbursements of funds to all institutions, including Mona, which further exacerbated the Campus' cash flow woes.

It is important to note that the Government of Jamaica remained reliable and consistent in meeting its financial commitment to the University, throughout the academic year.

Costs Reduction and Containment

Throughout the 2011/2012 academic year, The UWI, Mona Campus continued its efforts to sustainably reduce or contain costs, with commendable successes. A key area of focus was staff-related costs, which currently accounts for over 70% of operating expenses. Cost reduction in this area resulted primarily from attrition and the restructuring of roles to limiting the addition of new staff.

Management of energy costs was another major area of focus for The UWI, Mona Campus. The main initiative in this regard was the investment in the recently completed air conditioning service park to provide centralised cooling to three large academic facilities in close proximity of each other. The initiative is expected to save some 26% in energy cost to cool these facilities. Phase II of the project will see integration of the service park into a Combined Heat and Power Generation Plant.



Other cost saving initiatives included the introduction of 'thin clients', an initiative designed to reduce the cost of providing computer facilities for students. The project, aimed at reducing exorbitant outlays by students on printed textbooks and reducing the amount the Campus spends on computer purchases and

lab upkeep, was started in the Faculty of Medical Sciences. It will see the Campus involved in bulk sourcing tablet computers, preloaded with required textbooks for the students' programmes of study.

The use of "voice over internet protocol" (VOIP) technology for telephone service to reduce cost has been expanded. The technology has been incorporated in new facilities and is being rolled out to existing ones. The plan is for deployment of this technology across the entire Campus.

Improving Campus Infrastructure for Revenue Sustainability



The continuing strong strategic focus on infrastructure development seeks to accomplish three primary outcomes. These include:

a. providing staff and students at Mona with the most conducive teaching and learning space and technologies in support of our continuing quest for institutional excellence;

b. enabling the Campus to respond adequately to market demand for expertise in various locally underserved specialist areas; and of critical importance,

c. advancing efforts aimed at increasing income, diversifying revenue streams and containing cost, to mitigate the fallout from decreasing government support.

During the 2011/2012 academic year, substantial progress was made towards completion of key projects, including:

- The Faculty of Medical Sciences Teaching and Research Complex, central to planned growth in that faculty, including the recently introduced dentistry programme;
- Additional accommodation facilities to house 1,000 students, addressing a critical housing need;
- The Mona e-Services Park, aimed at providing employment for students, thereby assisting them with obligations like tuition fee payments; and
- The Mona Campus Combined Heat and Power Generation Plant, designed to secure the Campus' future energy needs.





The front elevation of the new FMS Teaching and Research Complex



The Faculty of Medical Sciences (FMS) Teaching and Research Complex: A Comprehensive Vision for Medical Sciences

Louvre covered windows help to shade the building from direct sunlight, thereby keeping it cool and reducing its energy needs.

Natural light flows through building reducing the electrical energy required for lighting.

One of several areas on each floor dedicated for student relaxation and socialisation.

Solar panels used for electricity generation and a grass cover roof to help with cooling, two more of the many green features of the new (FMS) Teaching and Research Complex

300 Seat Lecture Room





State of the art laboratory facilities.

The Faculty of Medical Sciences Teaching and Research Complex, near the hospital entrance to the campus is as striking inside as it is remarkable outside. Easily the most physically imposing new building at Mona it stands on seven levels, with 250,000 of its 300,000 square feet complete.

A spectacular 360-degree view from the top, which encompasses the mountains, city and an incomparable oversight of the campus itself, parallels the comprehensive vision for medical sciences, of which this complex is concrete evidence.

At this stage of completion, the complex is divided into two blocks. Block A which extends alongside Aqueduct Road has molecular biology and microbiology laboratories, a 300-seat and two 150-seat lecture theatres, student lounges and

tutorial rooms. Block B to the south is dedicated to Pharmacology, Histology, Biochemistry and Physical Therapy.

The roof facilitates more than a view. From there the complex's construction as a green building is best appreciated. Solar panels on one side harvest sunlight to provide hot water, with panels on the other side dedicated to generating electricity. Rainwater is harvested on the roof of each level through a sophisticated collection system and stored on-site.

Inside, angled light monitors allow sunlight but not the direct rays, into labs and offices, reducing the need for electrical lighting during the daytime. A space frame on the roof allows cool air and sunlight into the atrium space, which runs through the blocks levels. A louvre system on the exterior of the building, helps to shade some of the sunlight to decrease cooling requirements. Air-conditioning is provided by the Campus' air conditioning service park, with air handlers distributing the cool air to target areas.

From the preservation of a cotton tree at its base, integrated into the building space, through to the natural electricity generation and water collection on the roof, the Faculty of Medical Sciences Teaching and Research Complex is in harmony with the environment, while providing an ultra-modern ambience and facilities.



Graduate Student Housing: A Unique Postgraduate Housing Solution

The new 400-room graduate student housing complex.

The new postgraduate facility is a daring, successful venture into an entirely new housing territory for The UWI, Mona Campus. The 400 studio units, evenly distributed over four six-floor blocks, are housing solutions in the sense utilised by the state's housing agency, the National Housing Trust (NHT), the project's main funder.

In accessing NHT funds for this project, the Mona Campus went through an independent proposal process, in which it received no preferential treatment and was required to come up with approximately 30 percent of construction costs. The result of this three-year process, from conception to completion, is an ultra-modern, environmentally-friendly facility which not only provides housing for postgraduate students, but also



Inside a fully self-contained studio unit at the new graduate students' housing complex.

represents the vision of the university - functional yet attractive, efficient yet certainly not austere.

The new facility was developed against the background of the Campus previously only being able to satisfy 40 percent of postgraduate housing demand, a vitally important bloc of students to the University, especially in



Bathroom facility in each apartment



Inside a super studio unit at the new graduate students' housing complex.

terms of its research profile. Blocks A and C, which were completed for the new school year, were fully occupied at the time of preparation of this report. Block B, which was slated for handover soon thereafter, had 50% confirmed applications.

Each block consists of 88 regular studios and 12 super studios, the latter appreciably larger and especially suited to married students, went very quickly. Each studio is equipped with an electric stove, refrigerator, microwave oven, built-in closet, dining table, chair, study desk and chair and a single bed and mattress. The super studio comes with a double bed. Each studio has a balcony and is ventilated by sash windows with mosquito netting.

Each block has elevator access and is equipped with four washing machines, two dryers, four washtubs and a central drying area. A 40,000 gallon storage capacity ensures the facility is never out of water. Solar water heaters and fully fluorescent lighting help with energy conservation. Each block has a central green area and plastic grass cretes utilised in parking areas help to maintain the greenery.

Soon to be introduced are full wireless Internet and cable television services. When fully complete, the facility will provide electronic access to individual blocks, which will supplement the onsite manned security service.

At the current budget and based on projected occupancy, rental income covers the mortgage and operating expenses, with a little surplus. In addition to being an income generator, the facility will help to attract high quality graduate students to study at Mona, thereby providing a dual benefit to the university.



Undergraduate Student Housing: New Hall of Residence Integrated into Traditional Space



The new 600-room undergraduate student housing complex.

The new undergraduate hall of residence, which houses 600 students over five blocks, shares a common space with the existing Irvine Hall and Taylor Hall to its left and right, respectively, and looks directly across at Chancellor Hall. On completion, there will be no physical barriers between these halls, facilitating the free movement of students in their places of residence.

Four of the new hall's five blocks provide single room accommodation for 132 students, while the fifth has support offices for the facility and 36 shared rooms. A single room block has 22 rooms on each of its six levels, a centrally located kitchen facility, and two multi-person bathroom facilities, one for each 11-room wing.

Each room is furnished with a single bed, study desk and chair and built-in closet. While the blocks are co-educational, efforts are made to house males only on the ground floor. Elevators provide easy access to the upper floors.

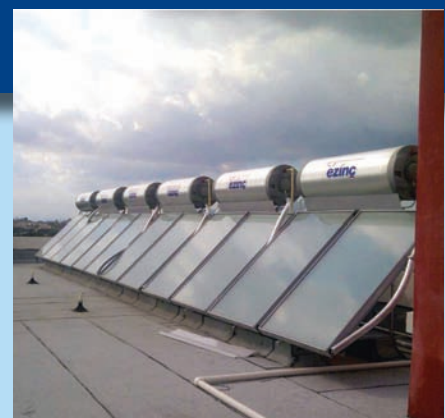
Equipped with solar water heating and concrete grass cretes in the parking areas, the hall is in keeping with the campus' environmentally-friendly thrust. There is 40,000 gallons of water storage and a central laundry facility. Just as the hall is situated to encourage inter-hall fraternisation, the new housing facility has a central, covered area in the courtyard for communal activities.

Two of the five blocks have been completed and are fully occupied, while there is a significant waiting list for those remaining units soon to come on stream. Like the graduate facility, plans are afoot to introduce full wireless Internet and cable television services.

Another pioneering collaboration with the NHT, the hall goes a far way to meeting the consistently high demand for housing on the campus. The rates are highly competitive to the open market and we are satisfied that the quality offering is vastly superior to what students have to contend with at significantly higher prices.



Common area on each floor, on each block includes a kitchen and lounge area that serves 22 residents.



Solar water heaters supply the hot water needs of all residents.



Combined Heat and Power Plant: Cutting Costs, Increasing Self-Sustainability

Combined Heat and Power (CHP), also called Cogeneration, is a new terminology to The UWI, Mona, but one that promises to literally bring new light to the campus.

Situated close to the Maintenance Services Complex and beside the e-Services Park, the CHP facility will generate electricity and, utilising waste from that process, thermal energy for air-conditioning. Among the cluster of buildings which will benefit from the cooling facility is the expansive Basic Medical Sciences Complex.

This integrated energy system is significantly more efficient than conventional electricity generation systems utilised by entities such as the Jamaica Public Service Company (JPSCo). It converts fuel to energy at a fuel efficiency ratio of between 75 and 90 percent, compared to approximately 34 percent for conventional systems.

The UWI, Mona Campus pays dearly for accessing the public energy grid. In 2010 the institution's electricity bill was approximately US\$5.5 Million, an 18 percent increase over 2009, despite a four percent reduction in total energy consumption after an aggressive conservation programme. In 2011 the total energy bill moved to US\$6.7 Million, and as at August 2012, payments for the year stood at US\$4.5 Million. Approximately half of the UWI, Mona Campus' needs go toward air-conditioning.

The cost for the first phase of the CHP facility, the heat recovery component to generate air-conditioning, is US\$6.3 Million. It is scheduled to come on stream in November 2012.

At established patterns of energy use and estimates of consumption as the campus expands its physical plant, relying solely on the public grid show a projected JPSCo bill for 2013 of US\$8.4 Million. At an estimated cost of US\$15.6 Million, net savings to the UWI from the new CHP facility is projected to be between US\$1 million and US\$1.6 million in each of the first five years of full operation and, subsequently, over US\$2 Million annually.

The CHP facility will produce nine megawatts of electricity, equally distributed among six generating units. The optimal set-up for reliable energy generation is two base load engines and four load peaking engines. From the waste heat created by generating nine megawatts of electricity, approximately 2,000 refrigeration tons of air-conditioning will be produced. This requires two absorption chillers and a hot water chiller, which can operate on three fuels - natural gas, diesel fuel or liquid petroleum gas.

Importantly, the CHP's emission footprint is significantly lower than a conventional system, especially in carbon dioxide production.

The Cooling Towers and Absorption Chillers, parts of the just completed Phase 1 of the planned UWI Mona Combined Heat and Power Plant. Completion of Phase 1 will now enable the plant to provide air conditioning to the new Faculty of Medical Sciences Teaching and Research Complex and other surrounding facilities like the Faculty of Law and the Sir Alister McIntyre buildings.



Mona e-Services Park: Built for a Sustainable Campus Economy

Situated in close proximity to the campus' maintenance complex, the new Combined Heat and Power plant, The Faculty of Law Complex, Mona School of Business and Management and the new Faculty of Medical Sciences Teaching and Research Complex, The UWI, Mona Campus E-Services Park is in the optimal position to provide call centre, data processing and other electronic services to a worldwide clientele.

Unique among the new buildings being erected in this phase of the campus' physical expansion, the 48,000 square feet, two-level structure provides the institution with significant income-generation capabilities and earning opportunities for well over 5,000 students, on a reduced work week arrangement.

The 750 completely outfitted, ultra-modern workstations are modular in designs and can therefore be configured to a particular client's needs and requirements, as well as to the dictates of a particular job. The project is an advancement on existing partnerships between the university and all of Jamaica's major telecommunications providers, through the Mona Information Technology Services unit. A new Tier-3 data centre which recently came on stream has significantly boosted the campus' capacity to execute this and similar data heavy ventures at Mona.

While the e-Services Park utilises the campus' physical advantages - among them an already secure location and proximity to support services for a large work force - it also takes advantage of the intellectual strength and diverse skill sets of the students. Among the target areas are the contact centre, medical transcription and legal outsourcing industries.

As it is intended to facilitate both local and international clientele, the Mona e-Services Park operates on a 24-hour basis. Built from pre-engineered steel, the facility is designed to physically withstand the sustained impact of a category four hurricane, continuing normal operations before, during and after a hurricane.

The e-Services Park provides a seamless fit into the Mona Campus' existing operations and utilises available intellectual capacity to provide a sustainable income stream for both students and the institution.

In the absence of government funding support for capital projects, the Mona Campus has sought to finance these initiatives through internally generated funds and loan financing. This has proven to be a strain on Campus resources. However, we remain resolute in overcoming the challenges towards ensuring a sustainable future for the Mona Campus.

The new Mona Campus e-Services Park, now in operation.