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A Qualitative Case Study of Green Environment: Practices, Attitudes and Future Strategies of Pakistani University Librarians

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Abstract

This case study enunciates university libraries' potential to address environmental issues through work operations. Every individual's green action counts on protecting the Earth nationally and worldwide. A library with sustainable vision will not only serve society but the planet as well. This confidence is the conviction behind this research. It took a lead in attempting to explicate the status of green work practices (GWP) in university libraries with specific reference to Pakistan. The data were mapped through in-person interviews with 27 librarians, observation, document review and photographs. Furthermore, a cross case analysis was done to validate the findings. Results showed that GWP status was unsatisfactory in the absence of framed guidelines. The majority of librarians were not familiar or had a limited or different understanding of GWP. Overall, there is a dearth of LIS literature in the domain of going green. As a result, current study seeks to stimulate an environmental conversation among library professionals. This research makes a case for university libraries' environmental role and attempts to establish a basic understanding of librarians' environmental perspectives. The generalization of these results may be limited. The depth and representativeness of the research sample is, however, a key strength of this study.

Introduction

The damages of global warming and pollution are visibly threatening human life internationally and have severely attached to everyday human life. Going green has also been discussed in a number of societal mechanisms. The current conditions of smog and pollution are a clear

indication that global warming is affecting everyone's lifestyle. It has become necessary to conduct scholarly research to provide solutions to reduce the effects of pollution on society. Going green is a neglected domain in local library and information science research.

Green library practices begin with understanding a well-established, environmentally friendly role of libraries via its distinctive attribute (e.g. free loan and renewal system)**.** Libraries' green work means proposing library spaces for care of the environment along with other institutions so that everyone and everything can gear up to protect the environment.

Sustainability is often referenced as an eco-friendly term (Le Ber & Gregory, 2004; Abbey, 2012). Generally, "green" illustrates ecologically friendly products and behavior. The term "sustainability" comprises long-term environmental goals (Binks, 2014) and using resources smartly to maintain a prosperous planet for future generations. Academic libraries are the nucleuses of educational institutes. They are focal partners of university campuses (Charney, 2014; Hardesty, 2011). These libraries may exhibit their presence within a university through collaborative green activities (IFLA, 2012). University libraries are adopting various ways for going green (Brodie 2012; Jankowska et al. 2014; Scanlon, 2014). LIS curriculum could be a good medium for raising green awareness among professionals (Brinkhurst, 2011). However, teaching by practicing is more convincing than words for achieving sustainable goals (Scanlon, 2014). Libraries are transforming into learning spaces from collection houses (Charney, Williams, & Smith, 2016). These learning spaces become vital places for disseminating the sustainability idea (Hauke & Werner, 2013). In broader perspectives, university libraries could be helpful in achieving national goals of sustainability (Phillips, 2016).

A green library encompasses not only design, but also helps empower the community to take green initiatives. Climate change is a global issue and it raises questions for negligence of "green practices" in librarianship (Fourie, 2012). Therefore, it is time to propagate sustainability through libraries (Jankowska & Marcum, 2010; Hauke, 2014). Even small actions can make a difference if enough people are involved (WWF Green Office, 2014). It is rightly stated that each individual success is important for a major impact on the planet's future (NASA 2008). Currently, growing global warming issues make a need for libraries to go green. Nevertheless, libraries can further improve the environmental benefits through smaller green steps to reduce the environmental impact of day-to-day activities. This confidence is the conviction behind this research. The

goal of the present study is to qualitatively examine green attitudes of library professionals and the libraries' policies and procedures.

Review of Related Literature

Although the history of "going green" in libraries is relatively brief, the literature has revealed efforts in exploring sustainability at libraries (Antonelli, 2008). Mandy (2014) urged to bring sustainability to the forefront in practices of librarianship. Universities are not immune from current local or global issues and neither are their libraries. Drastic climatic conditions make an obligation for librarians to protect the planet. Bonnie Ware (2009) listed *Top Five Regrets of the Dying* and current study assumes the sixth regret for a librarian not being able to engage in environmental protection as a part of job.

Green education and logical reminders may change an attitude (Peterson, 2014). A library team at a United States community college successfully implemented a print management system for saving paper, toner and electricity costs (Dempsey & Palilonis 2012). Gladwell (2000) suggests the *Law of the Few,* meaning that a few people could make a big difference. Librarians are few people as compared to the enormous faculty at university campuses. Therefore, a few librarians could make a big difference and bring change in the students and staff by displaying green work practices.

Green concerns are expanding globally. Therefore, a framework is required in libraries for promoting sustainability. Canada and the USA share a rich history of sustainability in higher education institutes (Wright & Wilton, 2012). Association for the Advancement of Sustainability in Higher Education (AASHE) encompasses green efforts of western US and Canadian colleges' campuses (Sherman, 2008; Stephens & Graham, 2010; AASHE, 2016). Australian Griffith University dedicated four decades to embed sustainability in all its work operations (Griffith University, 2016). Developed countries are addressing global warming continuously by regularly designing and improving various green tools. For example, Leadership in Energy & Environmental Design (LEED) allows librarians to "green" their libraries without major expenditures. The researchers' frequent online visits to leading global university libraries' websites confirmed that awareness of green practices is gaining strength. For example, Massachusetts Institute of Technology Libraries' website collected many research guides with further links to environmental

resources; such as Land Letter, Greenwire, Climatewire, Environment and Energy Daily (MIT Libraries, 2017).

The evidence for warming of the climate system is explicit since the mid-20th century. Republic of Korea, China, and India have augmented sustainability efforts (Robins, 2010). Indian University Grants Commission is planning to convert library buildings into green libraries (Shah, 2015). Some Nigerian libraries start raising public green awareness (Egbukole, 2008). The literature reviewed demonstrated efforts at global level. However, Pakistan lacks any environmental standards explicitly for libraries. The Climate Risk Index for 1994–2013 ranked Pakistan among the top 10 countries most vulnerable to climate change (Kreftet, 2014). Few environmental agencies are working for sustainable development; however, their major focus is on the construction and manufacturing sector. Confronting global warming is expected to remain a neglected area in Pakistan (Ahmed, 2016; Khan, 2015; Rao, 2016). The Pakistan Meteorological Department states that air pollution urgently needs to be addressed (Pakistan Meteorological Department, 2017).

Libraries are vital resource centers for knowledge. They play an equally important role to spread green awareness locally as well as globally. The present study serves as a baseline and strives to create awareness among library staff to design, implement and follow sustainability programs at libraries. This study establishes a discussion point for local and international researchers gauging the green awareness level of Pakistani librarians.

Study Objectives

The study explores librarians' attitudes towards green practices, green policies or standards and equipment from selected libraries. It further investigates the barriers operating green work in libraries. The present study highlights libraries' future aims for green work practices.

Methodology

Research Design

The case study is a detailed investigation of a discrete entity in a single setting (Gorman, Clayton & Clayton, 2005). It attempts to learn more about a poorly understood situation. (Leedy & Ormrod, 2001). Numerous cases may be studied jointly to investigate a phenomenon, population, or general condition (Patton, 2002; Stake, 2006). Multiple-case sampling gives greater reliability to findings (Miles & Huberman, 1994). Therefore,

two university libraries, a public and a private domain, are selected to maintain the balance.

Case Selection

In the current study, two cases were investigated, one in the public and other in the private sector. Stake (2006) noted that a number of cases may be investigated together in order to investigate a phenomenon, population or general condition. The library in case one is from one of the oldest public sector universities situated in a middle-class economic area of Lahore, Pakistan. Students and scholars from all over Pakistan enrolled in the university are the users of this library. The network of library users is made up of students, faculty and staff with a rich mix of cultures and ethnicities. There are also a few international scholars. The case one Library was built as the College Library in 1873, and later upgraded to the University Library in 1882 and transferred to the current location in 1988.

The library in case two is one of the country's leading private universities that promotes entrepreneurship and offers 50% scholarships to all admitted female business students. This university is a member of the Association of Commonwealth Universities. Quacquarelli Symonds (QS) Graduate Employability Ranking 2020 ranked it among the top 200 universities worldwide. Therefore, case two library is significant enough to be discussed in terms of environmental awareness. If the library is environmentally conscious, potential entrepreneurs may also use GWP in their businesses. These two cases highlight differences in both sectors' green practices. The selected cases will lead to a better understanding of the situation of green practices in academic libraries.

Participants

The study took personal interviews to solicit respondents' opinions on green practices. The study population consisted of all professional librarians (six participants were from private and 21 from public sector libraries). While the infrastructure of the two universities were comparable, the magnitude of the public university was greater than that of the private university. Hence, six librarians were in the population sample from the private sector library.

Data Collection

The current study mapped the data from different sources, such as interviews, observations, document reviews, and field notes. Qualitative interviews usually yield rich and detailed data (Arksey & Knight, 1999; Rubin & Rubin, 2005). Qualitative research posits that "the most powerful

way to understand human beings is to watch, talk, listen and participate with them in their own natural settings"(Shkedi, 2005, p. 7). This study used an interview guide locally developed by using foreign literature, as no relevant local studies were available. To validate interview questions, experts' opinions and pilot study was carried out.

Data Analysis

All interviews were transcribed. They were compiled by incorporating the observations and journal notes. The data derived from the interviews were arranged in Microsoft Excel spreadsheet. Following the Glaser's (2001) criteria, a number of approaches were adopted to analyze the data such as line-by-line, word by word to examine the sentences and phrases. This strategy provided the researcher depth and was useful for establishing several categories and then to draw out thematic relationships among these categories. The transcripts were analyzed again thematically using inductive analysis for giving data live meanings. The repeated effort of reducing and synthesizing data resulted in the emergence of five main themes: personal green practices; workplace green practices; status of library equipment; factors affecting green practices; problems and suggestions. Furthermore, a cross case analysis was done to validate the findings.

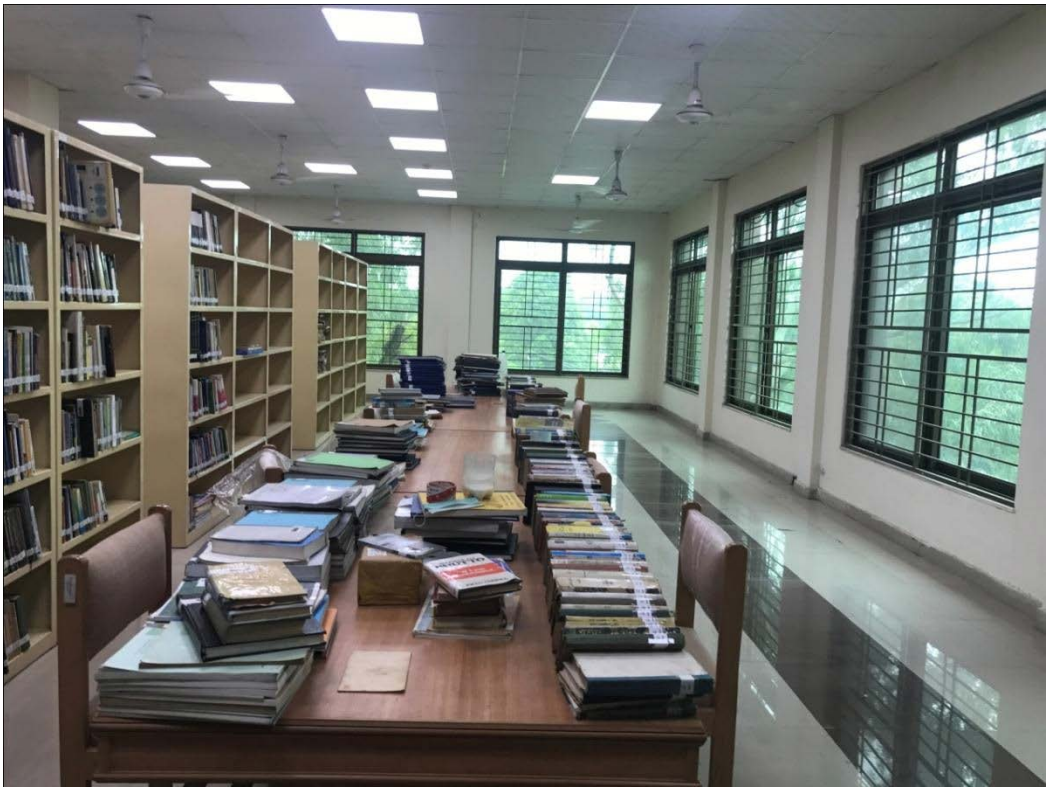
Findings and Discussions

Case one is from the public domain and case two is from the private domain. To present findings, specific codes were used with selected phrases: case one = C1, Librarians = P, case two = C2.

Case 1

The C1 is the largest and oldest public sector university library. Upon observation, this library was very clean with an environment welcoming learners (see Photo 1). Service points in the library had staff members. Due to glass windows, the library's second floor was illuminated with sunlight.

Photo 1. View of natural light coming through from the large windows (author's photo).



The respondents identified cloth and paper bags usage as a forgotten practice in Pakistan. One respondent noted:

> "Back in 1982-88, each house owned approx.2-3 cloth shopping bags. This means our parents were aware of recycling. I myself use fabric bag (Case1, P14)."

While there was limited percentage of people refusing plastic bags thus this is a positive indication of the recycling trend. They were mindful of the adverse effects of keeping hot food in plastic containers. The participants adopted different self-chosen strategies for clean drinking water instead of bottled water:

> "We use boiled water at home and filtered water at library (Case1, P10). Government installed water filter plant in my suburb so I utilized this facility and same is available in the library too (Case1, P8)."

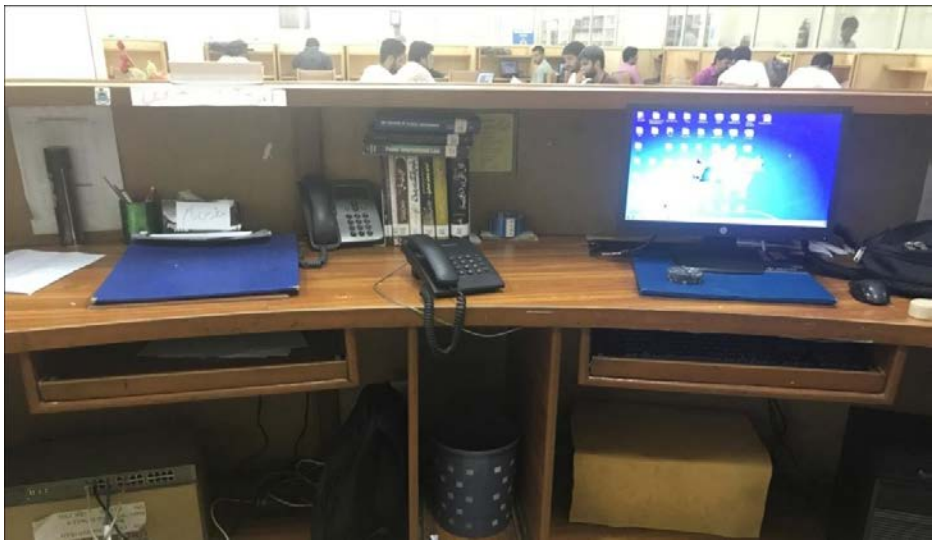
The researchers shared the environment friendly carpooling mobile application MobiRide informally during interviews. The respondents were not aware of such services; however, they showed interest, as according

to one: “it is money saving app and I will have offs from driving.”(Case1, P8). The majority of respondents in Case 1 were saving electricity at work, “No point turning on all lights in halls on sunny mornings.” (Case1, P9). The researcher personally observed that during an interview, one participant had to leave office; he switched off his office lights quickly (Case1, P5). The majority of respondents showed a strong commitment to saving resources. The staff re-uses one-sided printed pages for internal communication, writing rough catalogue records, first drafts of letters, placing near OPACS, self-reminders and permission slips. The library has special machines for cutting smooth edged equal sized slips out of used papers. One participant mentioned:

> “Look no waste! Here is an example [showing the researcher one sided printed pinned slips] (Case1, P10).”

Similarly, one participant asserted, “Using fountain pen is my habit since my school days and from now on it is for environment too” (Case1, P13). The washable crockery was in use. Participants did not have an idea of different color-coded bins before this interview. One interviewee encapsulated, “I never heard of separate bins in my entire career, you are showing me (in picture) it can be done in our library easily. I like it” (Case1, P6). It was observed that paper waste is kept separately for selling as Scrap (see Photo 2)

Photo 2. One bin for all type of rubbish (own photo).



It was also observed that librarians preferred natural light in their libraries to save electricity. One participant mentioned:

> “We both are sitting in load shedding hour but we don’t feel it; it’s all airy and bright due to large windows. We moved the cupboards perpendicular to the windows to promote the flow of natural light on first floor (see Photo 3) (Case1, P17).”

Photo 3. The furniture arrangement for utilizing maximum day light through lancet type windows (own photo).

Photo 4. Floor tiles allow better air quality and easy cleaning (own photo).

The other mentioned:

> "We installed granite floor tiles and removed carpets." (Case1, P17). The tiles are a great help to make the interior bright and cheerful (see Photo 4).

The researcher asked the participants if environmental protection ISOs are checked before purchasing equipment. Unfortunately, participants were rather reluctant: I am not in the purchase committee (Case1, P19). However, some answers described the situation. "There is no custom to check ISO so no idea" (Case1, P7). It was observed that new printers in the library were duplex and LED lights could be seen in some parts of the library.

Factors Affecting Green Work Green Practices both at Personal and Work Level

The respondents mentioned few influential factors:

Social Influences and Cultural Change

Social factors always have a huge impact on workplaces: "We feel inferior using public transport. Unlike 18 to 20 years ago, not everyone could afford cars but now banks made it easy. Now people do not care if not enough to eat but a car and new model mobile is a need." (Case1, P4). It was identified that emerging social pressures restrain people from re-using or sharing items to save energy.

Non Availability of Cloth and Paper Bags in the Markets

The respondents complained of non-availability of cloth and paper bags in average markets. One quoted: "I will prefer reusable bags, if available" (Case1, P11).

Noninvolvement of Government

There were concerns about the absence of government involvement in cultivating green practices: "Just one executive order can make plastic bags disappear from Pakistani household" (Case1, P2).

Official Decorum

Sometimes official orders hindered green work practices such as keeping paper records for audit, "we have to be consistent with office printing format" (Case1, P5). "I reduced the margins for my personal needs but for official documents" (Case1, P9). One senior professional shared:

> “We do not have any university policy except one that we cannot turn on the ACs before 10:00 am” (Case1, P10). The researcher observed that although sunlight was not falling on computers, the blinds were kept down (see Photo 5).

Photo 5. Blinds are hindering the sunlight (own photo).

Lack of Awareness

The majority of librarians were not well aware of green practices’ benefits, “I never paid attention to water or energy conservation” (Case1, P6).

Suggestions to Improve Green Work Practices

Librarians also had several suggestions for improvements that emerged from C 1 interviews and confirmed with C 2 participants. Almost all respondents agreed the librarian community should consider formal iteration of green work practices. As one revealed:

> “I remember about 20 years back it was quite cold in October but now we go out without sweaters even in December. So we are suffering from global warming” (Case1, P2). One commented, “I never tried to search someone for sharing transport. We as citizens are not trained to share things with others” (Case1, P18).

The discussions with various librarians concluded the educational aspect, “Our library schools should focus on environmental issues and conservation in the curriculum for future librarians” (Case1, P1). Some demanded active involvement of library associations: “Pakistan Library Association (PLA) should play its part for designing the guidelines to

remove roadblocks to green work practices" (Case1, P15). It was encouraging for researchers when interviewees admired the current topic. The majority of the participants claimed of never hearing or reading about environmental care in libraries, "As you mentioned ***switching off*** stickers on or near the switch boards may be someone is doing already but stickers will refresh it." (Case1, P2).

Future Green Work Practices' Planning and Priorities

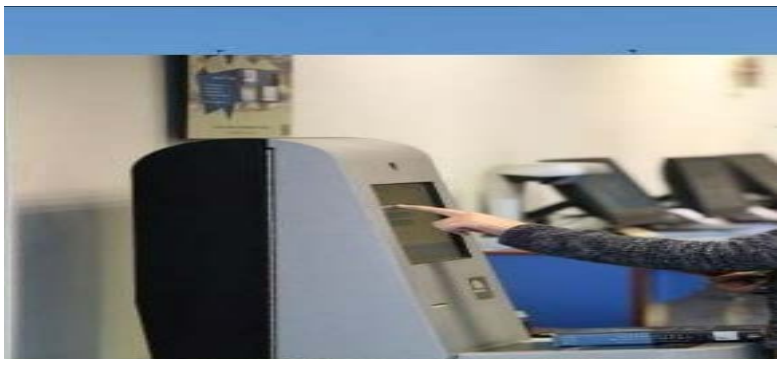
The positive remarks of the participants showed that working for the environment would be serving a noble cause. The following statements in Case One capture the essence of librarians' willingness. As one articulated, "I will make every librarian plant one Neem tree in library premises for keeping the environment insect free and it is not expensive" (Case1, P3). Another emphasized:

> "I will fine hostlers for using motor bikes. The hostels are five minutes away. Library parking area is full with motor bikes. When I were in hostel hardly twenty to thirty students owned motorbikes. How long back you are talking about? (Interviewer) Back in1988-90" (Case1, P21).

Case Two

C2 is a private sector university library established in 1985. The study area of the library, though not very big, was full with students. Self-check kiosks (see Photo 6) and a building management system (BMS) were observed.

Photo 6. Self-check kiosk for return and renewal of the library items (own photo).



The issue of commuting to work yielded interesting findings that emerged as one librarian explained "my colleague and I share car on alternate months for saving money" (Case2, P6). On further probing, his colleague

asserted, “I hid the fact due to other people’s philosophy that we are misers but now I am confident telling others” (Case2, P3). The results indicated, librarians may be taken into confidence regarding green practices so they don’t conceal them out of fear of public opinion. The researchers also found that librarians of C 2 were not aware of plastic bags damages. According to one librarian:

> “I asked for extra plastic bags while shopping, I have two kids and used these to dispose of their nappies [laughing]. We have cloth bags that my parents use them for shopping (Case2, P1).

It is also interesting to note the use of cloth bags is largely outdated and only relevant to older people. The researcher saw a towel on the back of an office chair. On inquiring, the participant explained that, “it is just for display [laughing]. It has been here for 4 to 6 months. I never used it; we have tissues for everything” (Case2, P4). The majority of librarians were not very satisfied with bottled water standards, “I use filtered water because big bottles are dirty at the bottom.” (Case2, P2).

Participants believe in saving paper and they prefer using SMS, emails and connecting through social media channels. The ease of access was the basic reason for using e-communication modes, “I preferred emails for easy access from my cell or laptop” (Case2, P3). The main storage devices for personal documents were Google Drive, Dropbox and Outlook. One librarian explained, “I am saving all personal and work files in e-folders, after all we are librarians [laughing] we should organize every document” (Case2, P4). Participants mostly used double-sided printing, preferred scanning and saving documents on USBs, read electronically and processed reference queries online. The used paper slips near OPAC stations were observed and confirmed, “Library has a mix of printers. Now we purchase duplex printers only” (Case2, P6). Another librarian hinted that, “Our library bulletin has shifted from print to digital four years ago” (Case2, P6). The researcher investigated whether library users are aware of the scanning option. One professional promised, “We don’t educate our students but we can add in our future orientation sessions” (Case2, P3).

The chief librarian shared his observation that, “most students let precious water running while brushing their hair in the washrooms. I teach my kids to turn off the tap while brushing teeth or hair”. (Case2, P4). It was observed and respondents confirmed that the status of office equipment is constantly updated, for example, purchasing of duplex printers, computer systems with LED screens, installing LED lights for energy conservation,

scanners to avoid photocopying, refilling of some printer toners, and multipurpose reuse of one sided printed documents. The librarians were not familiar with environmental ISOs, as they were not part of the purchase committee.

Cross Case Analysis

A cross analysis was done to explore the differences and similarities between both settings. The cross-case analysis confirmed that most librarians demonstrated keen sensitivity to the changes in weather patterns due to global warming. Both cases' librarians diverged greatly as they did not comprehensively understand green work practices. The staff across in both cases conserved energy for costs. Some librarians in C 2 shared cars on alternate months for financial savings; however, they concealed carpool activity, fearing others for being labeled miserly. Sharing vehicles indicated a green practice.

The majority of librarians were saving water and paper both at personal and work level. The prevailing motivation was financial savings rather than the broader community benefit. While money was not an impediment in introducing green policies, no librarian ever applied for funds in both cases. Overall, the staff was not familiar with the library green practices. A common practice observed in both cases was using ballpoint due to its simplicity of function relative to fountain pens. The most dominant green practice was saving paper. The findings revealed one library emailed overdue notices and shifted its bulletin to digital to save paper, postage cost and labor, while another had to keep it in paper record for audit. Both cases' libraries are not challenged by its stakeholders for incorporating action oriented going green measures. The university administration could not show any written document regarding waste, recycling, purchasing, landscaping and energy use. The librarians reported not to turn on air conditioning before 10 am. However, no written document was produced. Both cases were on a gradual shift towards more energy efficient equipment like purchasing duplex printers, using scanners to save paper and toner, installing LED (Light Emitting Diode) lights and using refilled toners in some section of the library were common practices.

It is important to note that differences in the regional locations and libraries' sector (public/private) affect neither the level of awareness nor the staff behaviors. In fact, the selected university libraries lacked a policy for communicating green work practices to its staff. Across both cases, librarians were ignorant about checking environmental protection certificates. There was lower ratio of problems in implementing green

initiatives since majority of librarians learned this concept for the first time in librarianship. The findings in C 1 demonstrated of non-encouragement from higher management, the conventional official decorum of performing library tasks, lack of interest from librarians, trouble with annual audits and an absence of green policy. In C 2, lack of interest and lack of a green policy among the staff members were two key issues. Notably, librarians equated green practices to a noble cause in both cases. They demanded conferences, seminars, talks, lectures and workshops on going green in libraries. Additionally, librarians of both cases were ready to integrate environmental sustainability into future orientation sessions.

Discussion

The findings demonstrate some extent of green practices in university libraries. The results demonstrate the universities' need to adopt a multi-faceted approach to incorporating environmental sustainability and libraries could be a forum for achieving it. The most dominant fact is that librarians have become keenly aware of environmental responsibility and admired the current research topic. Explicitly, this is a complex issue and will not be solved simply by asking librarians to adopt more green practices; formulating a policy will be a major driving force.

The present study is important in highlighting the need for librarians' participation in environmental activities. This is consistent with the results of previous studies; for example, negligence of "green practices" in LIS (Fourie, 2012). Similarly, this study indicated that insufficient environmental awareness is prevalent in academic libraries. The findings may not be compared or related due to the lack of prior GWP studies in the local library domain. However, previous international studies determined the need for GWP in academic libraries (Schaper, 2010; Charney, 2014; Phillips, 2016). Another study highlighted that despite its rapid recognition, "sustainability" is still considered an academic curiosity (Linton, 2007). The same situation is mirrored in the current research - climate change is not the matter of major focus in the libraries.

The practical implication informed that librarians are enthusiastic to practice green routines in their libraries. The participants require standardized green policies uniform green practices at a larger scale. The conclusions have created opportunities for qualified trainers to offer workshops, talks, lectures and seminars in order to help in raising environmental concerns among librarians. Cross-case analysis supports

green practices that are readily implementable and will benefit all stakeholders, resulting in improved environmental friendly work performances. This study provides a new perspective for libraries with some responsibilities and contribution in going green based on this case study in the field of librarianship.

Implications

The present study being a case study and interpretive in nature is unique since the issue it has raised has not been previously addressed in local librarianship. There is no precedent of any earlier local study to be strengthened or challenged. This study advocates for creating a green agenda by library associations, educators, librarians and policy makers. Extrapolating these results provides basic awareness of how to introduce, develop and promote green work practices in university libraries to facilitate sustainable development. This study draws a substantial general inference that there is limited environmental awareness among local academic librarians. The utility of the present case study is that it emphasizes the collaborative efforts between librarians and campus to caring for the environment at their campuses, libraries and beyond. Since libraries are key information dissemination centers, this study offers some positive decision to protect planet Earth as global citizens. Current work may theoretically stimulate a need to engage the library community to help understand and solve environmental problems by encouraging, developing and promoting green behaviors.

As with all research, this study has explicit limitations and offers new insights into potential future research possibilities. Firstly, it has drawn only from university libraries of Lahore city. It is the capital city of the most populous province of Punjab and a prominent knowledge hub of Pakistan. This study therefore examined the present green scenario of Lahore city's University libraries. Secondly, as a case study, it has limited the sample size. However, interview data provides a potential basis for a more detailed study with a larger cohort on themes discussed in the results. Future research should bear such concerns in mind and seek to present a base for more generalized results by collecting more data across other cities and different educational sectors. Finally, in order to arrive at robust conclusions future studies should also analyze GWP from other countries with similar economies to Pakistan. In summary, the regional efforts of the Global North and the Global South librarians for going green should continue unabated.

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