

Achieving Urban Sustainability in the Island City of Bahrain: University Education, Skilled Labor, and Dependence on Expatriates

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Abstract: Many of the recent inquiries into urban environments of the Arabian Gulf states have focused on the rapid development in the region, following the discovery of oil. Particular attention has been paid to the Gulf States' massive inward migration and its influence on social and political structures. However, less attention has been afforded to how the resultant dependence on foreign skilled labor and expatriate workers affects urban sustainability. This paper addresses this gap in the knowledge in the context of the Arabian Gulf island state of Bahrain. It draws upon a qualitative study based on interviews with researchers and government officials in Bahrain, as well as information obtained through official governmental data and published academic and newspaper articles. The paper examines Bahrain's lack of capacity in university education in sustainability-related disciplines and its consequences in the labor market and in the government's urban sustainability work. The paper demonstrates the widespread dependence on foreign skilled labor and expatriates in academia and government and further points out the recognition and criticism of this phenomenon on the part of local and foreign practitioners. Lastly, it outlines the consequences of these developments Bahrain's working environments, processes, and the internal systems of the researched governmental bodies.

Keywords: Arabian Gulf, Bahrain, education, expatriates, island cities, skilled labor, urban sustainability

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Introduction

The Gulf is one of the oldest continuously inhabited places in the world; this is evident in the discovered traces of the great civilizations (Zahlan, 2002). The transformation of the Arabian Gulf states following the discovery of oil is marked as being the fastest in the world, making it an appealing laboratory to assess the theories of globalization (Fox et al., 2006; Heard-Bey, 2004; Khalaf, 2002; Looney, 2007). Since the late twentieth century, relative rates of city growth in the Arabian Gulf have been among the highest in the world due to massive foreign migration, and

all indicators suggest that this pattern of urban development will continue in the future as well (El-Arifi, 1986). This fast transformation of the Gulf States attracted and has been dependent on the massive migration of people to the different Gulf States. The high standards of living after the discovery of oil and the mix of contemporary and traditional lifestyles have attracted people to move into the region. Although expatriates represent the majority of the population, the traditional social structures in these countries direct the change and transformation by filtering what is acceptable (Fox et al., 2006). Nevertheless, today, the many social complications led by this excessive immigration cannot be overlooked (Gardner, 2010).

While globalization and change are topics that have long been associated with the states of the Arabian Gulf, urban sustainability has been newly introduced in the region. Few researchers have focused on the overall urban sustainability of the Arabian Gulf states, while more studies tackled some matters of environmental, social, economic and cultural focus. Environmental sustainability has the biggest share in literature. Environmentalists have discussed the various environmental threats and problems associated with urbanization in the region, varying from the noteworthy increase in temperature and humidity and underground water salinity, to the decrease in precipitation levels and the desertification of the already deserted region, initiated by land degradation and overgrazing (Brook et al., 2006; Ulrichsen, 2011). Researchers also discussed problems associated with the almost complete dependence of the region on desalinated water and the catastrophic consequences of any contamination of the water of the Gulf (Abderrahman & Husain, 2006; Ulrichsen, 2011). Rising sea levels are another environmental challenge in the Gulf. Researchers have debated that the rise threatens up to fifteen kilometers of Bahrain's coastline along with artificial islands in the lower areas of the Gulf. (Met Office Hadley Centre, 2009; Raouf, 2010). It has also been demonstrated that the Gulf States are still underdeveloped regarding environmental policy and decision making (Hertog & Luciani, 2011; Kumetat, 2012).

Nevertheless, the literature shows that there is proof of a notable development in the level of social awareness regarding the environment which is evident in the adoption of renewable and clean energy initiatives. However, for example, Abu Dhabi is hosting the headquarters of the International Renewable Energy Agency (IRENA) while also having one of the largest ecological footprints per capita in the world (Luomi, 2009). Environmentalists have debated that what seems to be missing in the Gulf Region, in general, is awareness of emerging climate security threats (Ulrichsen, 2011). Most of the socio-economic debates in the literature about the states of the Arabian Gulf have focused on the emergence of consumer-oriented societies following the discovery of oil (Abdu, 1992; Al-Abadi, 1990; Al-Motwa, 1996; Al-Nouri, 1990; Al Qudsi, 1992; Al-Saif, 2002; Zaid & Abu-Elenin, 1995). The more specific economic debates focus on the survival of these states after the depletion of oil in the near future (Abir, 1974; Foley, 2010). Security of the Arabian Gulf states has been strongly connected to the oil-based economy and export strategies (Cordesman, 1997; The Emirates Centre for Strategic Studies and Research, 2009).

The development of higher education in the Arabian Gulf has also been strongly connected to consumerism. Like most other amenities in the region, the knowledge that is being consumed in the Gulf is mostly being produced elsewhere (Donn & Al Manthri, 2010). There are only five universities that offer courses on sustainable

architecture in the region, and none of them are located in Bahrain. Researchers have discussed that it is important to educate graduates who will most likely hold management and leadership roles in the future to make informed decisions on the social, environmental and economic sustainability of the urban environment (Ephgrave, 2011).

While most literature about sustainability in the Arabian Gulf states focuses on the different environmental concerns and the socio-economic threats facing the oil-rich states, few researchers have highlighted the challenges to implementing sustainable solutions in the context today. This paper attempts to fill this gap in the literature by focusing on the work of governmental organizations concerned with the built environment and the educational and training challenges to achieve urban sustainability in Bahrain today. The paper draws upon qualitative empirical research conducted between 2013 and 2014.

The research context: The critical case of Bahrain

The paper focuses on Bahrain as a case study. The Kingdom of Bahrain is the only island country in the Gulf and is the smallest of the Arabian Gulf States, comprising 770 km² with around 1.3 million inhabitants. The entire country is about half the size of London and is one of the most densely populated countries in the world (World Data Bank, 2015). Strategically located islands such as Bahrain are especially likely to develop into densely populated centers of power (Grydehøj, 2015). Despite their population density though, they remain small states, with small populations and land areas and are thus subject to many of the same challenges as small islands in general, including dependence on imports, high transport costs, and lack of local skills (Connell, 1991; Fernandes & Pinho, 2015).

Bahrain has historically had a thriving economy due to its strategic location between the west and the east. Following the discovery of oil in 1931, it enjoyed relatively high economic status. Nevertheless, its small size and increasing population have put stress on its resources. The public in Bahrain today demand public services that are equivalent to those in other neighboring oil-rich countries, which pressures the government with limited resources to compete with its wealthier and larger neighbors, to avoid public outrage.

Some scholars have questioned the effects of expatriates (expats) on the local social structure and cultural identity of the Arabian Gulf countries, suggesting that the vast labor migration has brought social and cultural changes that encourage political conflicts (Halliday, 1977; Louer, 2008). Although the Arabian Gulf countries, especially the coastal states of Kuwait, Bahrain, Qatar, and the United Arab Emirates are very similar in many of their cultural, social, and environmental conditions, the relatively small size of Bahrain, its high density, and limited resources make this debate regarding migrants particularly important and critical politically and economically.

Foreign labor: A critical history

The discussion about expats and migrants provides a useful starting point for any inquiry into the sustainability of urban environments in the Arabian Gulf. The employment of British and American personnel in high managerial, technical and administrative positions by the government preceded the discovery of oil. One such expat is the British Sir Charles Belgrave, an influential figure in the history of

Bahrain, who held an advisor post to the Bahraini government from 1926 to 1957 and had a significant impact on the decisions of the government at that time (F. Al Khalifa, 2012; M. Al Khalifa, 2010; Al-Khalifa, 2013; Belgrave, 2011). Following the discovery of oil in Bahrain in 1931, migration patterns which were more related to the pearling and trade industry changed (Birks et al., 1988; Louer, 2008; Mellahi & Al-Hinai, 2000).

The flourishing of the oil industry in the latter half of the twentieth century resulted in mass migrations of foreign workers to Bahrain. These immigrants held skilled, semi-skilled and clerical positions and were mostly western, related to the British and American oil companies, in addition to migrants from Iran and the Indian Subcontinent. The local skilled labor was far too small, with the result that migrants comprised most of the working force in the new oil based industries despite the instructions of the country's rulers to favor the employment of Bahraini nationals (Louer, 2008; Mellahi & Al-Hinai, 2000; Seccombe & Lawless, 1986; Shaban et al., 1995).

By the mid-twentieth century, Western employees were at the top of the management pyramid, Bahrainis were at the bottom in lower jobs, and Indians and Pakistanis were sandwiched in between (Beling, 1959; Louer, 2008), (Figure 1).

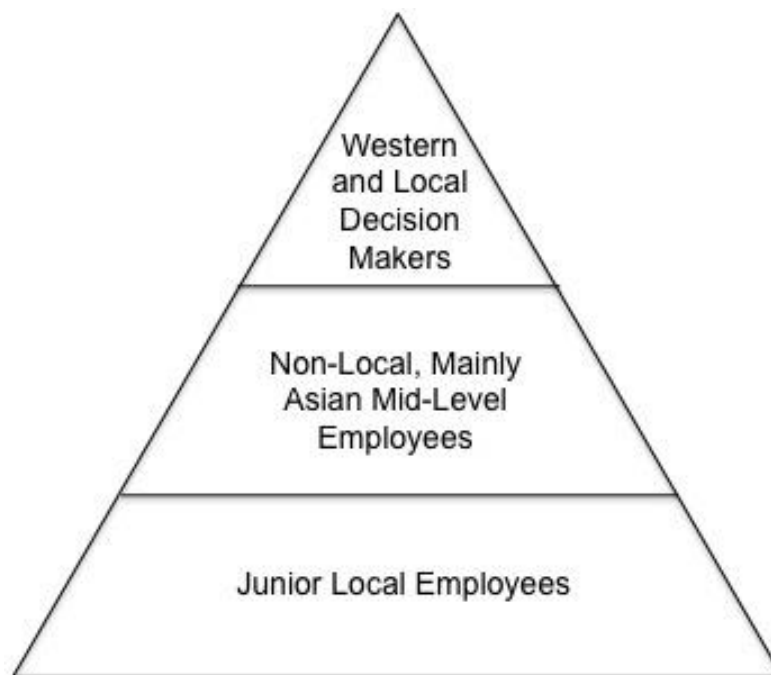


Figure 1: The management pyramid in mid-twentieth century Bahrain.

Consequently, a Bahraini labor movement emerged, resulting in a wave of strikes over the years, demanding priority for Bahraini nationals in employment (Louer, 2008; Nakhleh, 1976; Rumaihi, 1976). The economic growth following the rise of oil prices in the 1970s and the independence of Bahrain in 1971 allowed the development of a generous welfare state and the subsidization of many services, including health care, education, electricity, water, and housing. Thus, the public sector became the primary employer for unskilled Bahraini nationals, which resulted in an overstaffed, unmanageable and inefficient but important sector (Louer, 2008). The mass employment of Bahraini nationals in the public sector occurred in tandem

with a mass importation of foreigners in the private sector, and the number of Bahrainis employed in construction and services was particularly low (Franklin, 1985; Louer, 2008; Mellahi & Al-Hinai, 2000).

It is easy to generalize that naturalization is not one of the biggest problems in the countries of the Gulf. Migrants in Bahrain in particular have the most political influence among the states of the Gulf (Louer, 2008), and this political power is related to the citizenship status of those migrants (Nagy, 2006). The serious political, social, cultural and economic consequences of migration and expats in Bahrain cannot, however, be overlooked today since (Looney, 1990). The continuity of the welfare state encourages unrealistic expectations, and citizens refuse to accept the end of the socio-economic conditions that materialized following the discovery of oil (Louer, 2008).

My father rode a camel. I ride a Cadillac. My son flies a jet. My grandson will have a supersonic plane. But my great-grandson [...] will be a camel driver (Foley, 2010, p.42).

In addition to the economic pressure caused by the subsidized services of the public sector, migrants in Bahrain are more likely than migrants in the Gulf countries to obtain Bahraini citizenship after a number of years of residency. This entitles them to receive all government benefits and subsidies, putting more stress on the already limited resources, which have caused political unrest (Louer, 2008; Winckler, 2005). In most other countries of the Gulf, nationality is very hard for immigrants to obtain, irrespective of their length of residence (Louer, 2008). For example, Qatari Citizens comprise only about 25% of the total population, with the majority of foreign expats staying in the country on working permits alongside their accompanying families (Nagy, 2006). Similarly, in the UAE, migrants account for 80% of the total population (Louer, 2008). Migrants elsewhere in the Arabian Gulf states do not directly compete with locals because they do not share the subsidies offered by the welfare system in those states, making the political conflict caused by migration less significant.

Researchers who have studied expatriate workers in the Gulf debated that expatriates were not only more specialized and experienced than local workers but also more disciplined, easier to control and relatively cheaper (Attiyya, 1996; Louer, 2008; Lumsden, 1993; Mellahi & Al-Hinai, 2000). In the pre-development era, expensive but more productive and skilled foreign employees were attractive (Louer, 2008), while today, for the same level of training and work, Bahraini employees in junior posts are more costly and therefore less appealing (Mellahi & Al-Hinai, 2000). Much of this discussion has been focused on technical and junior posts related to housing management, gardening, and sales. The present paper, however, highlights the effects of expatriates employed by the government in higher academic and professional posts specifically related to the built environment, where their employment might be more costly than local employees.

Despite the importance of this issue in the Gulf, research into reliance on foreign labor, knowledge, and consultants is still limited, particularly in Bahrain. There is an urgent need for empirical research to develop a body of knowledge upon which sound policies can be recommended. This paper aims to examine the continued dependence on foreign labor, knowledge, and consultants in Bahrain today in an

attempt to reach conclusions as to the effects and consequences of this dependence on the sustainability of the urban environment in Bahrain.

Methodology

This paper is based on a qualitative research project in Bahrain which has been conducted through interviews and experience of the context and is part of a larger study that focuses on the relationship between cultural change and urban sustainability in the Arabian Gulf. Because this study is concerned with understanding the challenges to achieving urban sustainability in Bahrain, a qualitative approach was chosen to assess the interviewees' understanding of sustainability and the degree to which they think sustainability is implemented in their projects. This research does not attempt to quantify or apply measurements. It rather tries to analyze the society and the urban fabric it produces. Therefore a qualitative approach is more suitable for this study (Bryman, 2012).

Thirty-three semi-structured interviews were conducted with officials concerned with the built environment, foreign advisors, and consultants hired by the government. Questions concerned the nature of their work, their understanding of urban sustainability (including social, cultural, economic and environmental sustainability), and the degree to which they think sustainability is accounted for in urban and architecture governmental projects. The interviewees were selected based on their roles in five relevant organizations in Bahrain: University of Bahrain, Ministry of Culture, Ministry of Works, Ministry of Housing, Ministry of Municipalities Affairs and Urban Planning, and Supreme Council of the Environment. The interviewees were selected as a representative sample. Different levels of the work hierarchy were targeted, though because of the difficulty encountered in getting decision makers to participate, more attention was given to mid-level employees, including the head of directorates and departments, in addition to foreign advisors and consultants (Figure 2).

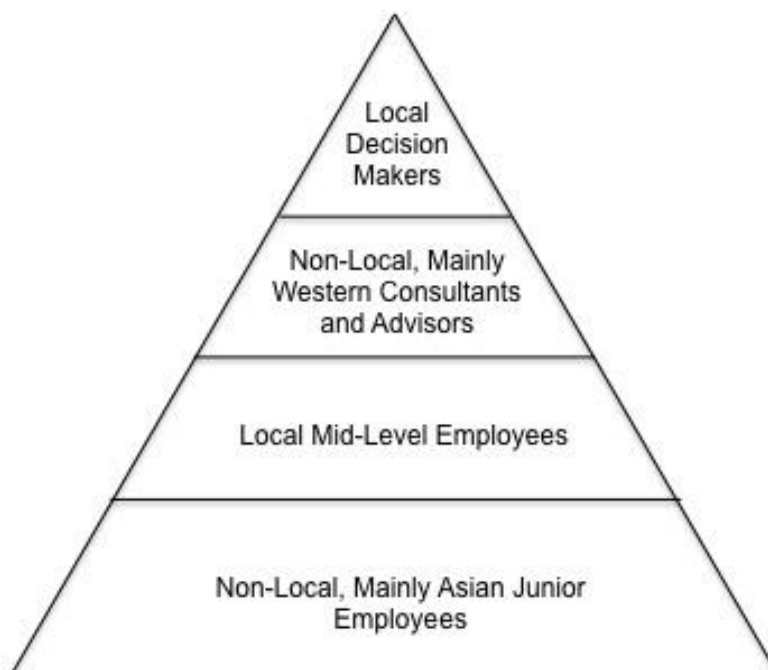


Figure 2: The contemporary management pyramid in Bahrain.

Moreover, two sets of data were obtained to support the findings from the interviews. The first was from the Civil Service Bureau explaining the numbers and positions of local employees in fields related to the built environment in the public sector, in particular urban planning, urban design, landscape, architecture, engineering and project management. The other set was obtained from the Labor Market Regulatory Authority. This contained the same evidence, however for expatriates. The interviews were conducted in both English and Arabic, according to the preference of the interviewee. All interviews were then transcribed, and the Arabic interviews were translated. Transcriptions were coded, and three levels of themes emerged. The themes were then analyzed in relation to the overall aims and objectives of this study.

Shortcomings in academia

Within the field of the built environment, the University of Bahrain offers a number of BSc degrees in Engineering, in addition to Architecture and Interior Design. There are higher degree courses in Engineering and Project Management, but not in Architecture or Interior Design. Also, Civil Engineering, Architecture, and Interior Design were up until very recently in one department (Table 1). Today, they are separated into their own departments, but all are still within the College of Engineering and have many engineering courses in their curricula, particularly the Architecture program, which includes more than six engineering courses. This was emphasized by interviewees from the Architecture section. The Civil Engineering and Architecture Department at University of Bahrain comprised more than half of the entire College of Engineering (Table 1). Due to the large number of students and various administrative reasons, such as the continual appointment of civil engineers to chair the department, there is a strong engineering influence on the architectural curriculum, and a decrease of the architectural section's power.

Table 1: The different programs offered by the College of Engineering at University of Bahrain (University of Bahrain, 2014).

Department	Section	Undergrad	Postgrad (Master)	Postgrad (PhD)	Number of Students	Percentage	Total
Architecture and Civil Engineering	Architecture	BSc in Architecture	N/A	N/A	535	56%	1696
	Interior Architecture	BSc in Interior Architecture			240		
	Civil Engineering	BSc in Civil Engineering	MSc in Civil Engineering	PhD in Civil Engineering	921		
Mechanical Engineering		BSc in Mechanical Engineering	MSc in Mechanical Engineering	PhD in Mechanical Engineering	434	14.30%	434
Electrical Engineering		BSc in Electrical Engineering	MSc in Electrical	PhD in Electrical Engineering	286	9.40%	286

Electronics Engineering	BSc in Electronics Engineering	and Electronics Engineering	N/A	225	7.40%	225
Chemical Engineering	BSc in Chemical Engineering	MSc in Chemical Engineering	PhD in Chemical Engineering	386	12.70%	386
TOTAL						3027

Furthermore, the university does not yet offer any programs on Urban Design, Urban Planning, Landscape Architecture, Architectural or Urban Sustainability, Conservation, or Regeneration. This lack was acknowledged by interviewees with a background in urban studies. The interviewees stressed the need for an urgent revision of the current curriculum to include urban studies and for specialized faculties in these fields. Whether there is a need to modify the existing architecture curriculum to address those shortages or a need to develop new programs, the acknowledgment of the lack of these specializations seemed to be limited to the faculty members who are interested in these fields.

Because there were no serious attempts by University of Bahrain to initiate new programs in any of these specializations, the possibility of changing the curriculum to accommodate these shortages was discussed with interviewees. Most felt that the possibilities for change were dependent on those in senior positions and that there was a greater chance to change the course contents than to change the already fixed curriculum due to the long bureaucratic process involved. It was clear from the interviews that the possibility of changing the curriculum was mostly in the hands of expats, while locals focused on changing the course contents of their individual courses. It is important to note here that any changes to the architecture curriculum would have to pass through the collage council, then the university council, for approval. Although most of the members of both councils are locals, these locals come from other fields.

Shortage in local expertise and qualifications

The research findings show that shortage of skilled Bahraini staff seemed to have caused the dependence of governmental organizations on external consultants and labor. This has resulted in a managerial structure that sandwiches these consultants and foreign expertise between the local decision makers and junior architects, planners and designers (Figure 2). This overall lack of local experts applies to various fields. For example, the lack of Bahrainis specialized in cultural heritage was acknowledged by a Bahraini architect from the Ministry of Culture who stressed the need to educate local architects in matters related to cultural heritage. The non-local head of architectural affairs at the ministry, on the other hand, shed light on the lack of qualified Bahraini architects and used this to justify the employment of foreign consultants by the ministry. The interviewee discussed how the ministry's initial plan was to interact with local architects to try and improve the level of architecture in Bahrain by giving an opportunity for public commissions and establishing a comparative system among architects. Nevertheless, the interviewee alleged that the quality of architecture had deteriorated badly in the last few decades. Thus, the ministry wanted to introduce once again a higher level of architecture by collaborating with foreign consultants. This is an example of the implications of the

shortcomings in academic disciplines that cater to a sustainable urban environment in Bahrain.

Moreover, the local Head of the Building Unit at the Ministry of Municipalities Affairs and Urban Planning argued that there is a need for Bahraini specialists in fields related to landscapes. The interviewee explained that poor and limited education results in difficult working environments in governmental organizations concerned with the built environment, which affects the quality of their working systems and their project outputs. The data from the Civil Service Bureau also showed that no Bahrainis occupied posts in landscape. Locals who are working in related fields would be either gardeners, agricultural equipment operators, agricultural engineers or agricultural technicians. Meanwhile, the data from the Labor Market Regulatory Authority showed that some landscape posts were held by expats (Table 2). This raises concerns about the effect of this lack of local expertise on the quality of landscapes in Bahrain and in particular the quality of waterfronts, beaches, and open spaces. Al Ansari (2009) among others discuss the deteriorating quality and quantity of public waterfront open spaces in Bahrain, but the relationship between those challenges and the lack of academic specializations in Bahrain is almost never established in the literature.

Table 2: Number of Bahraini and non-Bahraini employees at the relevant governmental organizations in posts related to Landscape Architecture (Civil Service Bureau and Labor Market Regulatory Authority, 2014).

Nationality	Position	Number
Bahraini	Agricultural Extension Specialist	1
	Agricultural Economist	1
	Agricultural Technician	2
	ASST U/Secretary, Agricultural Affairs	2
	Director, Agriculture Engineering & Water Resources	1
	Senior Agricultural Engineer	1
	Senior Agricultural Technician	11
Expat	Landscape Architect	5

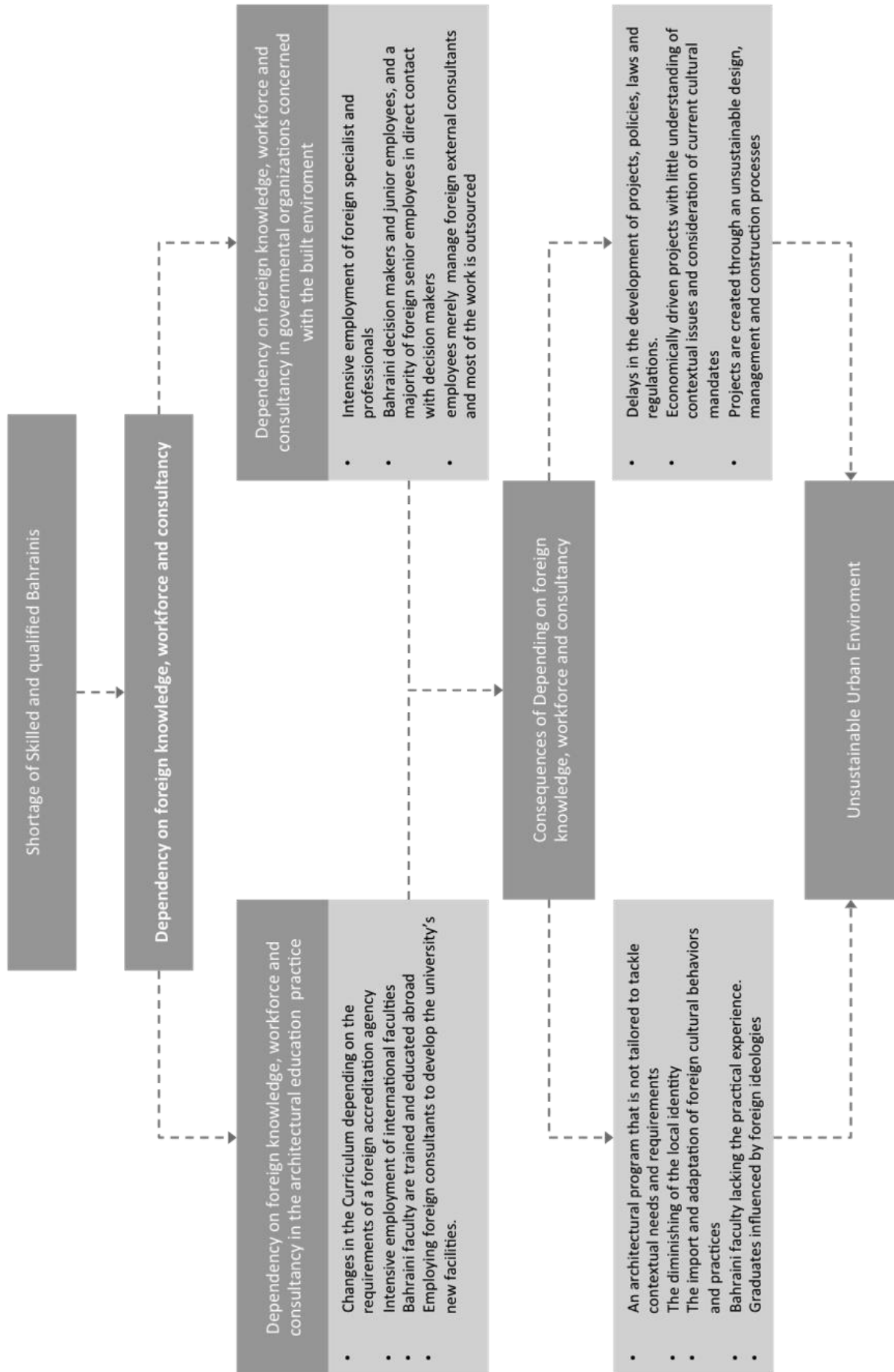
The head of Strategic and Urban Planning at the Ministry of Municipalities Affairs and Urban Planning also acknowledged the lack of local experts in urban policies, eventually resulting in a dependence on foreign consultancies. This was also clear from the data obtained from the Civil Service Bureau: There are limited posts for locals in urban design and planning in comparison to engineering, and none of these posts are specifically related to urban policies. Furthermore, there are no vacancies for jobs related to urban policies or landscape in particular. This indicates either that although there is a realization of the skills shortage, the government does not attempt to attract local skills or that there is incomplete acknowledgement that local skills in those fields are almost nonexistent. In either case, the development of urban

policies in Bahrain is almost entirely dependent on foreign consultants, which is proven by the high number of expats in posts related to architecture, urban planning, urban design and especially landscape. It is clear that the lack of these specializations in academia is affecting the work of governmental organizations and is one of the leading causes of the employment of foreign consultants.

Like all of the organizations mentioned above, there was also a lack of local experts in the field of environmental sustainability within the Supreme Council of the Environment. The local head of environmental planning explained that when technical issues arise in air modeling, for example, they often rely on foreign consultants to solve them because of the lack of national specialists. The interviewee recommended investment in national cadres in a serious manner.

In addition to the lack of professional expertise, another reason behind the dependence on foreign consultants was argued to be the absence of proper training. The local head of pre-qualification of consultants and contractors at the Ministry of Works explained that practical experience should be weighted equally with academic knowledge. He stressed that young Bahrainis are not prepared to enter the market upon their graduation due to the lack of practical experience during their study years. The foreign urban development advisor at the Ministry of Municipalities Affairs and Urban Planning also highlighted this issue.

The argument above demonstrates the almost complete governmental dependence on foreign knowledge, labor, and consultants, mostly due to the lack of national expertise. It was clear from the findings that there is a great shortage of local experts and qualifications due to the limitations in education. This, in addition to the lack of training, seems to challenge the development of a sustainable urban environment in Bahrain.



Effects on Bahrain's urban development

The dependence on foreign skills and knowledge in governmental organizations takes a number of forms. This varies from the employment of expats to work within the organization to contracting foreign consultancies for the design and construction of projects to even adopting laws and regulations from other regions of the world.

This dependence was evident in the way changes are adopted to the existing curriculum of Architecture at the University of Bahrain, associated with the requirements of the American National Architectural Accreditation Board (NAAP). An interviewee who is part of the NAAP accreditation committee highlighted that the current course curriculum is being re-examined. The committee redefined course descriptions and objectives and streamlined the entire system of delivery and assessment of materials to be in line with the NAAP requirements. Another form of dependence on foreign knowledge at the department was the employment of many international staff members, while most of the students are Bahraini (Table 3). Foreign employees at the department hold most of the higher level academic positions while Bahrainis hold the majority of junior academic posts or are on scholarship leave.

Table 3: Number of staff in the Architecture department.

Position	Bahraini	Non-Bahraini
Professor	0	2
Associate Prof	0	2
Assistant Prof	5	4
Lecturer	1	6
TA	7	0
Instructor	1	3
Scholarship	4	0
Adjunct	3	1
Total	21	18

The dominance of foreign staff raises concerns about the cultural sustainability of the architectural program, given that most changes to the curriculum are decided by non-locals. It is important to note here that this structure has existed since the establishment of the department in 1990, due to structural reasons. The most notable of these reasons are the relatively low salary for holders of masters and doctoral degrees at University of Bahrain compared to those employed in other organizations and the better working conditions offered by other governmental organizations where working hours do not extend past 14:30, which makes it easier for married women in particular. This eventually resulted in the continuous transfer of the Bahraini staff to those organizations, once they returned with their higher studies degree, leaving academic posts to be occupied by mostly expats.

Anecdotal evidence from the head of the Department of Civil Engineering and Architecture in 2010 showed that they were trying to solve this issue by explaining the financial penalties and debts to newly recruited Teaching and Research Assistants (TA). Ideally, a TA who is awarded a scholarship to study abroad would have to serve double the time spent abroad working at the university to repay the scholarship debt. However, the head of the department explained that ever since the time he himself was a TA, those who have received scholarship leave continue to abandon the university for other governmental organizations upon requests from decision makers or in some cases join the private sector, to open an architectural office, which is more rewarding than an academic post at the university.

Moreover, the cultural change brought by those foreign staff was acknowledged by even non-Bahraini interviewees. The interviewed staff members emphasized that students are continuously exposed to different ways of thinking and talking and that they are comparing and questioning the international staff's different approaches to teaching. The effect of foreign staff on the local students is present in the literature and provides an example of the theories set forward by (Halliday, 1977; Louer, 2008) among others, who suggested that the vast labor migration brought social and cultural changes to the region. In addition to the majority of non-Bahraini faculty members at the department, it was noted that all of the Bahrainis had been trained and educated abroad. One example of this is the academic journey taken by one of the interviewees, who graduated with a BSc in Architecture from Riyadh University and got his masters degree in City Planning from the University of Pennsylvania. He also took various diplomas from the USA in Demography and a Housing diploma from the Arab Institute in Kuwait. The interviewee finally studied Conservation at York University in England. All of the other faculty members have similar educational backgrounds.

Another example of dependence on foreign practices is the employment of external consultants by the engineering office at University of Bahrain to plan, design and construct its new facilities. This was highlighted by the local head of the Engineering Office. The university already employs a good number of faculty members specialized in different fields of the built environment, but because of the increase in student intake, designing all of these facilities in-house in collaboration with the overworked departments was not possible. It is worth mentioning here that the university has been trying to increase its number of staff. However, the loss of local staff to other governmental organizations and the strong competition caused by better offers from other universities in the region (sometimes up to triple the salaries offered by University of Bahrain) mean that foreign employees are also hard to attract.

The dependence on foreign employment is not limited to academia. It was also evident in all other interviewed organizations. There seemed to be a great dependence on foreign employees in the Ministry of Culture in the field of architectural conservation. Five interviewees were selected from the Ministry of Culture for the purpose of this research: Three of them held decision-making positions (head of departments and a conservation advisor) and were of a foreign origin while two Bahrainis held junior architect positions. This clarifies the degree of dependence on foreign labor in the Ministry of Culture and relates to the shortage of specialized higher degree courses in those fields in academia. There was also an extreme dependence on external consultants, while foreign and local architects and urban planners at the ministry mostly held management roles. A review of some the

most recent projects of the Ministry of Culture clearly illustrated the dependence on foreign consultants:

1. Bahrain National Theater was designed by the French Architecture-Studio in collaboration with British ATKINS.
2. Bahrain Fort Museum was designed by the Danish Wohler Arkitekter.
3. Dar Al Riffa Al Oda (the Great House of Riffa) was designed by the Belgian OFFICE Kersten Geers David Van Severen.

Similarly, the Ministry of Housing appeared to be extremely dependent on external consultants. Like the Ministry of Culture and University of Bahrain, in-house architects and planners are merely managing most of the ministry's projects. However, there were a large number of in-house projects. Major projects under the jurisdictions of the Ministry of Housing are currently contracted to foreign consultants. Some of those are megaprojects that aim to create new towns for more than 4000 residents. One of these projects is being planned in collaboration with the Prince's Charles Foundation for building communities, a British organization invited by the Bahraini government to assist the Ministry of Housing in planning and designing a new housing project. The local assistant for strategic projects explained that they employed Prince's Charles Foundation to tell them what does not work and to help them bring the project forward. The local head of urban development also emphasized the role of Prince's Charles Foundation, which has wide knowledge and experience in the field in implementing sustainable strategies for housing projects. The interviewee believed that Prince's Charles Foundation would add a lot to the ministry's experience in sustainability.

A foreign urban development advisor from the Ministry of Municipalities Affairs and Urban Planning explained that the problem of outsourcing projects is acknowledged by the ministry, and solutions were put forward. Nevertheless, those solutions still required the employment of specialized expats to teach local Bahrainis in junior positions. The interviewee criticized the Ministry of Housing for depending on external consultants despite their 50 years' experience. Although this highlights an awareness of the dependence on consultants, the magnitude of the problem is still present. The data from the Civil Service Bureau showed that still no Bahraini nationals occupy any of the landscape architecture posts.

Another way of outsourcing to foreign consultants in the Ministry of Municipalities Affairs and Urban Planning is by creating policies, strategies, and implementation plans. The local head of strategic and urban planning explained that major strategic urban policies are being made by external consultants. In 2007, the ministry employed SOM, and in 2010 it brought in ATKINS. Interviewees from the Ministry of Municipalities Affairs and Urban Planning, Ministry of Housing, and Ministry of Works explained that this dependence on foreign consultants, or perhaps the shortage of local skills, causes delays in the main projects.

This also highlights the weak urban planning legislation in Bahrain due to the shortage of local experts. In addition to the shortage in urban planning policies, a lot of the standards used by the Ministry of Municipalities Affairs and Urban Planning in construction and landscape seemed to be imported from outside, mainly from the US, UK, China and sometimes from Europe. This was underlined by the head of the

building unit who explained that those standards are then modified to comply with Bahrain's special weather circumstances.

In an interview, the Chief of the Central Planning Organization, who is of a foreign origin but has been working in Bahrain for 26 years, explained that he was in charge of the coordination, planning, implementation and protection of all infrastructure, public and private, including oil and gas in Bahrain and that he reports to ministerial level, the cabinet subcommittee level, and sometimes to the Crown Prince. The length of time the interviewee spent in Bahrain has made him knowledgeable about the country's context. However, appointing the responsibility for coordinating, planning, implementing, and protecting all infrastructure in Bahrain to a foreign hand proves the vast dependence on foreign services. In a casual talk with a senior local architect at the Ministry of Municipalities Affairs and Urban Planning, during an overseas conference, the architect mentioned that this foreign chief of the Central Planning Organization was even more influential than the minister himself. This raises concerns about the sustainability of the recruitment system and the influence of expats on decision makers.

Moreover, it was clear from the cross comparison between the two sets of data obtained from the Civil Service Bureau and Labor Market Regulatory Authority (Table 4) that the number of foreign employees in posts related to Architecture, Urban Design, and Urban Planning is much higher than that of local employees. The data also shows that foreign employees hold junior architecture and planning positions while local employees hold management positions such as project leaders, advisors and heads of department. That is, the locals are in positions that normally cause them to answer to a foreign advisor or hire a foreign consultant to achieve the ambitions of the local decision makers.

Table 4: Number of Bahraini and non-Bahraini employees at the relevant governmental organizations in posts related to the design, management and planning of the urban environment.

Occupation	Number of Bahrainis	Number of Expats
Architect	0	135
Senior Architect	1	22
Architectural Engineer	4	228
Architectural draftsman and technician	0	65
Senior Architectural Technician	0	8
Architectural Photographer	0	1
Urban Designer	0	1
Landscape Architect	0	5
Senior Urban Planning	3	1

Senior Urban Planning Technician	3	0
Chief of Urban Design/Planning	3	0
Head of Department (Architectural and Planning)	3	0
Consultant/Advisor Planning	5	0
Urban Planning Project leader	2	0
Urban Studies Specialist	1	0
Total	25	466

Also, the data clarified that there is a complete dependence on foreign labor in matters concerning landscape. The majority of foreign workers in landscape fields come from developing countries (India, then the Philippines, followed by Egypt, Lebanon, Jordan, and finally the UK). This relates to the cheap costs of employing foreign experts in comparison to locals in junior posts (Mellahi & Al-Hinai, 2000). Nevertheless, this raises concerns about the ability of these employees to relate to contextual issues and deep social matters when designing, planning or managing projects, as will be explained in the next section.

In addition to the dependence on foreign knowledge, labor and consultants in academia and government, official statistics showed that 59,480 university graduates were working in the private sector. This figure was dominated by a total of 43,994 foreign employees (39,444 diploma and BSc holders + 4550 Masters and PhD holders), with just 15,846 Bahraini employees, comprising only 36% of total private sector university graduate employment (Alayaam Foundation for Press and Publication, 2014). In 1981, Bahraini nationals made up 33% of the private sector workforce (Franklin, 1985; Louer, 2008) Although the private sector is beyond the scope of this paper, this shows that both the private and governmental sectors in Bahrain are dominated by foreign employees, while literature shows that foreign employees in the private sector dominate jobs that are lower in the power hierarchy. This study shows that foreign employees and consultants in the public sector are sandwiched between the local decision makers and local junior architects and planners.

Questions of quality

There seemed to be an acknowledgment within the Ministry of Municipalities Affairs and Urban Planning of the unsustainable appointment of foreign consultants to local projects. Most of that acknowledgment came from the foreign interviewees themselves. A foreign urban development advisor from a Middle Eastern (but not Bahraini) background said:

People like it, because ATKINS did it. When Lord Atkins made that building with three fans [referring to the Bahrain World Trade Centre project], I objected right from the beginning. I told them they are tricky, and they are stealing your money. They want to try something that they wish to make it in

their home. I am going to say it again and again, those foreigners, they are crooks, and they do what they like.

Either the interviewee considered himself a local after nine years of living in Bahrain, or his definition of foreigners was exclusive to those from the West.

Another foreign interviewee also criticized and questioned the quality of consultants that Bahrain is employing today despite his political bias toward sustainability. The foreign chief of the Central Planning Organization had a negative opinion about the Prince's Charles Foundation, in contrast to the local interviews from the Ministry of Housing. The interviewee feels that the Prince Charles Foundation's (PCF) shared surfaces road design does not respect the experience of those who work in the Roads Department at the Ministry of Works:

PCF does not respect the experience of the people here. I had worked in many places before I came here and I can tell you that the architects and planners I met in Bahrain are some of the finest I ever met. Why should we bring PCF to Bahrain? We should go to PCF in the UK and show them how a good sustainable housing project could be done. They come with all of those washy ideas that sound good and delay projects, while what is important in Bahrain politically is to deliver housing units.

Here, the interviewee refers to the long waiting list for housing, with 53,000 applications and rising as of 2014.

Given the lack of local specialized educations and the limited number of Bahrainis educated abroad in these fields, the interviewee's judgment might be exaggerated, but it is possible that the Bahraini architects and planners are more knowledgeable of the country's context, culture, and environment. The interviewee also criticized the appointment of a foreign director to the Special Projects Directorate, which is responsible for some new mega-housing towns, noting that the director is a quantity surveyor, not a planner.

This is both a foreign issue and a specialization issue. During an interview, this director of the Special Projects Directorate was unable to relate to the social aspects of the projects, despite the importance of social and cultural matters in public housing projects. When asked about the social connectivity of the mega social housing projects with other areas in Bahrain, the interviewee manifested signs of shallow understanding and debated that they are focused on the development of the town itself and that the main aim is to deliver as many units as possible. In contrast, the director's local assistant was better informed and equipped about social and cultural matters than the foreign director and was able to explain thoroughly the social and cultural differences and connections between other areas of Bahrain and these mega housing projects. This raises concerns about the skills and quality of foreign consultants employed in Bahrain, and their ability to grasp complex social and cultural matter in a relatively short time.

The local head of environmental planning at the Supreme Council of the Environment also questioned the reliability of consultants hired by the government for only being concerned about the economic benefits of projects. The interviewee explained that consultants do not listen to executive entities and therefore do not pass the information on to decision makers. This lack of communication is one of the

consequences of situating foreign consultants between the decision makers and junior local executive entities (Figure 3). The interviewee also highlighted that employing foreign consultants to work with local projects often causes delays because they come with the mindset of their own country's problems. It takes time for them to fully understand Bahrain's situation and circumstances.

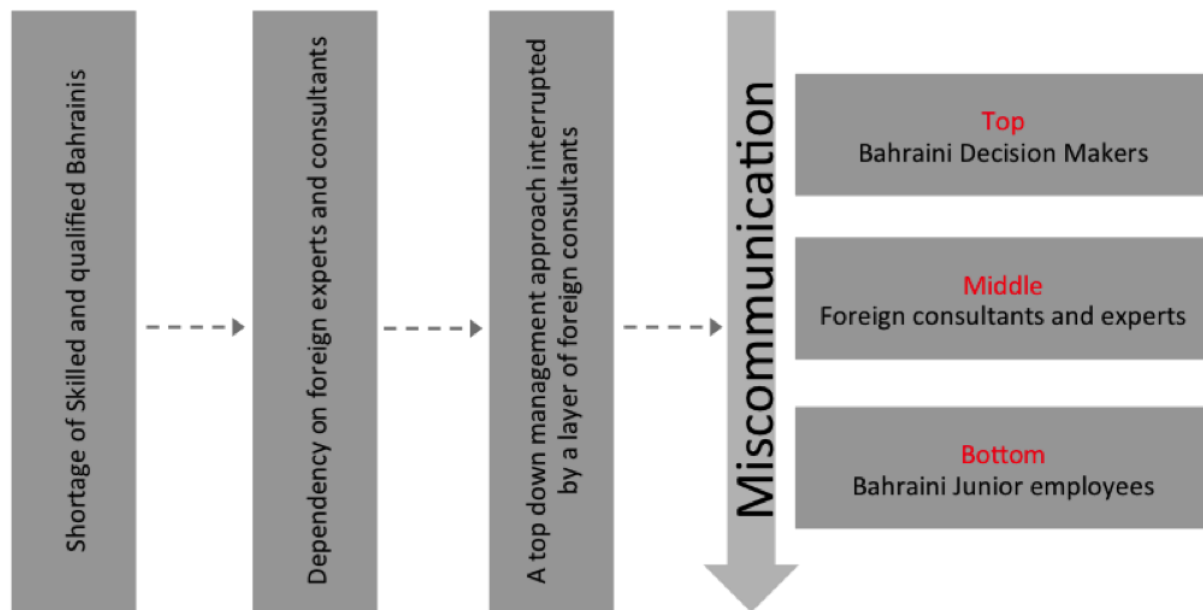


Figure 3: Causes and failure of the top-down management approach.

The non-local urban development advisor at the Ministry of Municipalities Affairs and Urban Planning also explained that sometimes decision makers are misled by foreign consultancies, producing negative results in the final projects. An example of this is the Bahrain World Trade Center project mentioned above, a building situated on the most important waterfront in Bahrain, designed to have three wind turbines connecting two towers. The consultants convinced decision makers that the three turbines would generate electricity to run the building. However, because of the limited wind in Bahrain and structural problems that caused the two towers to vibrate when the turbines were in operation, the turbines are today solely decorative elements. It was clear from the interviews that the dependence on foreign consultants and the lack of local experts in Bahrain cause miscommunication and delays. This raises concerns about the reliability of awarding projects that require a contextual understanding to foreign consultancies and the consequences on the quality of their work and the cultural, social, environmental and economic sustainability of the urban environment in Bahrain.

Deficiencies in working environments, processes and internal systems

It was clear from the interviews that there were also serious problems in the internal systems of the relevant organizations and deficiencies in their working environments. The most obvious shortcoming was miscommunication and overly complex relationships between various governmental organizations (Figure 4), different levels of operational hierarchy, and the failure of the top-down management approach, which separates local decision makers from junior employees, with a layer of foreign consultants in between (Figures 2 & 3).

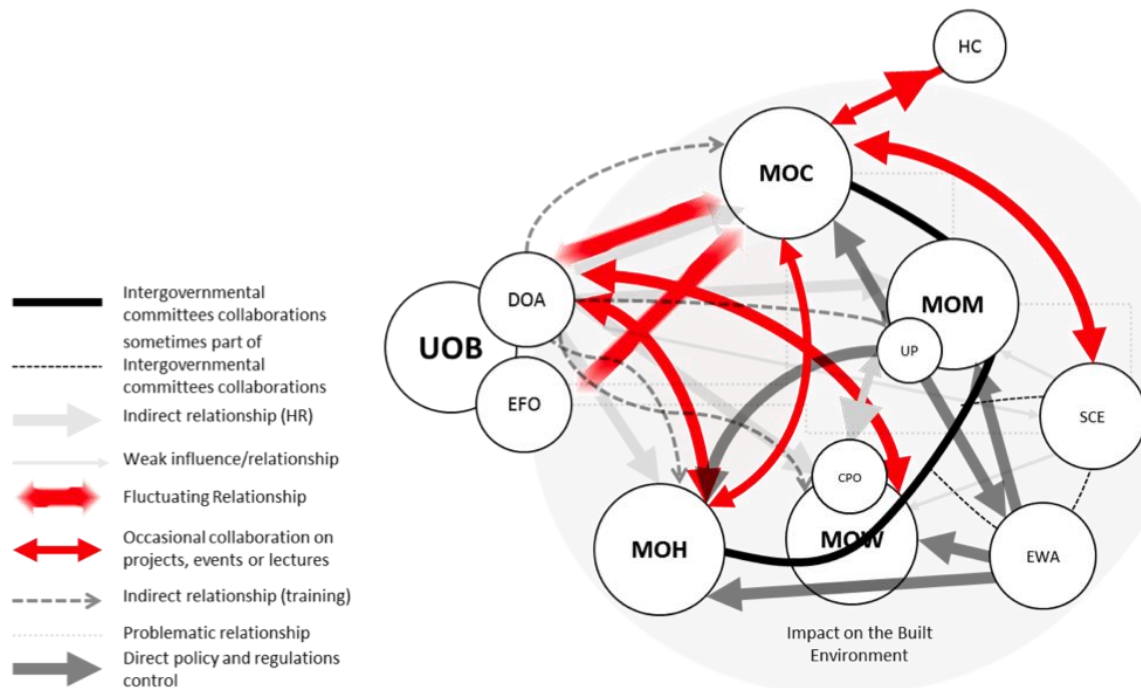


Figure 4: The connections between governmental organizations concerned with the built environment in Bahrain, as described by the interviewees.

The interviews with staff at University of Bahrain showed that there are administrative and managerial reasons behind the weakening of the architectural program at the university, which is affecting the quality of graduates feeding into other organizations. Most of these reasons related to miscommunication between the department and the university's upper management, which could be attributed to the domination by engineering discussed above. An example of this miscommunication is that, today, Architecture and Interior Design are separated from Civil Engineering. However, it was noted during the interviews with lecturers and professors that most of these academics did not even acknowledge the separation between the Civil Engineering and Architecture departments and had only heard that it existed, despite the importance of this separation for granting power to the growing architecture department.

Another example is the miscommunication between the Facility Management and Engineering Office and the Department of Architecture, an issue that is related to the increasing number of students and the failure of the university's facilities to accommodate this increase. The director seemed to think that there was no need to create additional space, explaining that managing existing space is what is required, while interviewees from the department argued the opposite. An interviewee from the Department of Architecture stressed that they are "tightly cornered" because student numbers are increasing, so they are under pressure from inside of the classrooms to expand and from the outside to squeeze themselves. The interviewee explained in frustration that there seems to be no space to maneuver.

The deficiency of the working environment at the Ministry of Culture is very much related to the dependence on foreign labor and consultants and is also an issue of

miscommunication. A local junior architect stressed that Bahraini architects do not understand the decisions by foreign specialists in conservation, and sometimes do not agree with them. He explained that their ideas are costly and time-consuming. The interviewee assured me that there is miscommunication between different managerial levels in the ministry. The lack of Bahrainis specialized in cultural heritage and the deteriorating condition of heritage in Bahrain indicates that this is an issue of miscommunication rather than disagreement. Although this interviewee mentioned the need to send Bahraini junior architects abroad to learn more about this field, miscommunication is evident in that the decisions of foreign consultants are not being explained thoroughly to the local junior architects.

Problems of management and miscommunication were also evident in the Ministry of Housing. The rising number of housing applications is the overriding problem at the ministry. This resulted in the fast expansion of the ministry's directorates and the placement of the new Special Projects Directorate in a different building due to shortage of space in the main facility. The consequences of this separation are now evident in the lack of communication between the different directorates, which adds to the miscommunication that results from employing expats. The head of architecture and master planning at the Special Projects Directorate explained that they are supposed to be working as one ministry but realistically they are not. The interviewee believed that they are operating as a separate entity and explained in frustration the shortcomings of the current top-down management process.

Similarly, there was evidence of a struggle and miscommunication between the upper and middle management at the Ministry of Municipalities Affairs and Urban Planning. The local Head of Strategic and Urban Planning argued that changing things at the ministry is not an easy task due to issues of miscommunication. Another deficiency of the internal system that arose during the interviews with the Ministry of Municipalities Affairs and Urban Planning was the concentration of inadequate workforce. The interviewee explained that the ministry is "the government trash for employees" and that 80% of heads of sections did not have a bachelor's degree. The ministry could not fire them, so they forced some of them into early retirement and trained the others. This points to the problems associated with channeling local employment into the public sector to avoid political unrest, regardless of employees' know-how and capabilities.

Another form of miscommunication was the lack of representation of the Supreme Council of the Environment in the Prime Minister Council, which reduces the organization's ability to enforce their decisions on other governmental bodies. The local Head of Environmental Planning explained that there was no real system by which the Prime Minister Council could learn about his council's work, with the result that other ministries do not understand the essence of their work. This continuously leads to a disregard for environmental considerations and a decrease in the environmental sensitivity of governmental projects in Bahrain.

There is a clear relationship between the shortage of local experts and the inefficient top-down management process in governmental organizations concerned with the built environment. This, in addition to other problems, seemed to affect the social, cultural, environmental and economic sustainability of governmental urban and architectural projects in Bahrain (Figure 5).

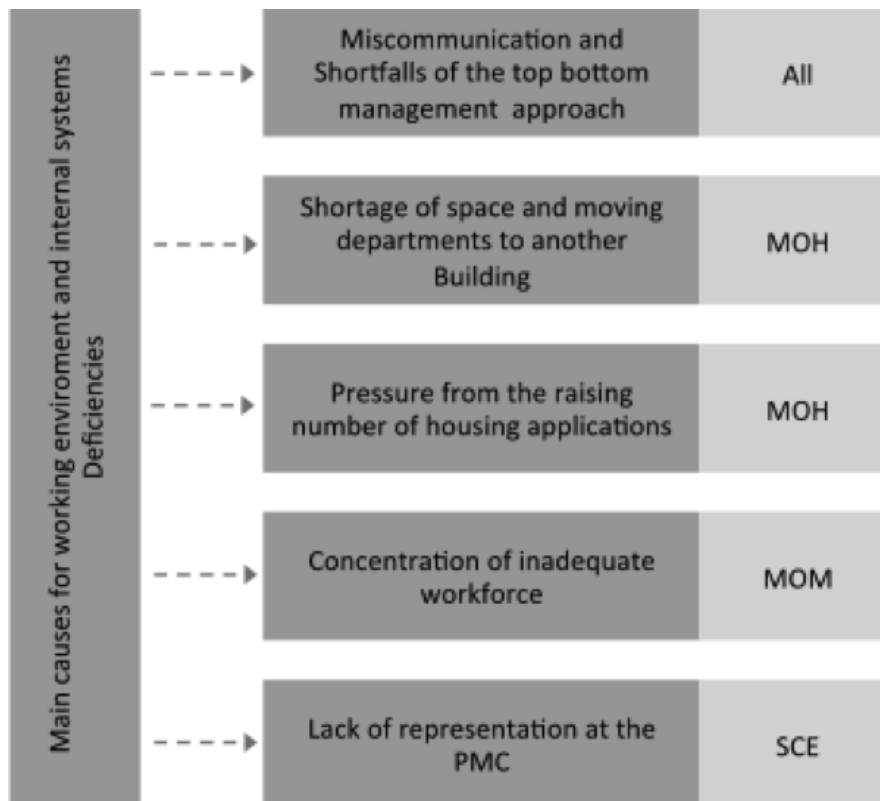


Figure 5: Main causes for the deficiency of internal systems and working environments.

Conclusion

This paper aims at understanding the challenges facing urban sustainability in Bahrain today, by focusing on the educational and training difficulties facing governmental organizations governing the production of the urban environment.

Throughout history, Bahrain, like all its neighbors, has been a destination for foreign expatriates. The pattern of those migrations changed following the discovery of oil to adapt to the requirements of the new industry. The political pressure of this migration in Bahrain appears to be more serious, which makes this argument very critical for this small island with limited resources.

Literature shows, that, historically, the main reason behind the dependence on foreign labor following the discovery of oil was the shortage of local skills and capabilities. Despite over eighty years passing since the discovery of oil, this study revealed that the shortage in local skilled labor due to lack of proper education and training, in addition to other forces related to the unsustainable welfare state system, remains the driving force behind the continuing dependence on foreign knowledge, skills, and consultants in Bahrain today.

The literature also shows that expensive but more productive and skilled expatriates were more appealing in the past while today, filling the same competencies with Bahraini employees in junior posts is more expensive and therefore less appealing. This study, however, focused on foreign skills, knowledge, and consultants, employed high in the power hierarchy in posts responding directly to decision makers. The study has shown that in the field of the built environment, there is an extreme

shortage of local specialists in many fields, including but not limited to: Urban Planning, Urban Design, Sustainability, Landscape, and Conservation. This has resulted in weak legislation, policies, and projects.

This paper further addressed the impact of foreign consultants, labor and knowledge on the work of the interviewed governmental organizations, and showed that although bringing in international staff results in a variety of ideas, skills, and outputs, the dependence on foreigners in projects that require a deep understanding of contextual matters causes delays and miscommunication. Moreover, the study proved that this has negative effects on the social, cultural, environmental and economic sustainability of the government's production, eventually resulting in an overall unsustainable urban environment.

Bahrain today needs first to invest in a large number of young local architects who obtain their BSc degree from the growing architectural program at the University of Bahrain. Different governmental organizations should offer funding for local graduates to study abroad in a field relevant to their work. This should arrange for skilled labor to enter the local market within just a few years. Also, the University of Bahrain should launch several higher education courses specialized in Urban Design and Planning, Landscape, Sustainability, and Architectural Conservation to train more skilled labor in the long run. This would help diminish the gap between the local decision makers and junior architects, reduce the miscommunication caused by the layer of foreign consultants in between, and ensure greater understanding of matters related to the social dynamics, local culture, and environment in governmental projects.

One of the restrictions of this study was the very limited amount of literature on urban sustainability in the Arabian Gulf context in general and Bahrain in particular. More research is therefore needed to investigate the overlapping complex social, cultural, economic and environmental problems, rather than to tackle them in isolation. This paper focused on the public sector. However, it has also been demonstrated that the private sector is dominated by foreign employment. More research should be carried out to study the causes and impacts of this dependence on the local private market. The inconsistency of the data retrieved from the Civil Service Bureau and Labor Market Regulatory Authority was another obstacle. Job titles, positions, and other details were not very clear and needed to be understood in relation to other sources of data, principally the interviews. A study to clear this inconsistency is needed because any deeper investigation about the labor market would struggle to paint a clear picture of the situation. This is of real importance to understand in the country's sustainability and changing context.

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