Professional MBA
Facility Management

Facility Management as a sustainability tool in international development

A Master's Thesis submitted for the degree of
“Master of Business Administration”

supervised by
Mag. Dr. Paul Jankowitsch

Ismail Al-Basha, BSc

01449648

Vienna, 26.11.2020

Affidavit

I, **ISMAIL AL-BASHA, BSC**, hereby declare

1. that I am the sole author of the present Master's Thesis, "FACILITY MANAGEMENT AS A SUSTAINABILITY TOOL IN INTERNATIONAL DEVELOPMENT", 92 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted the topic of this Master's Thesis or parts of it in any form for assessment as an examination paper, either in Austria or abroad.

Vienna, 26.11.2020

_____
Signature

Acknowledgement

I would like first to extend my heartfelt gratitude and appreciation to God and my family for their unconditional support they have provided. I also want to thank my fellow students who were an exceptional force of support, mentoring and most of the times caring and kind.

Words cannot describe the support provided to me by Dr. Han and Ms. Sabine administratively but also their keen care in following up on our assignments, exams, and related matters. If it weren't for their support, I wouldn't be here.

Second, I would like to take this opportunity and express my eternal gratitude and appreciation to the best mentor I have had in my life Dr. Alexander Redlein. His guidance, passion and professionalism exceeded my expectations. He has taught me how to overcome any obstacle in life through diligent thinking and outside the box mentality. His creativeness was contagious, and it helped me out not only at the program but also at my work and personal life. His coaching methods will never be forgotten.

Lastly, I want to thank Mag. Dr. Jankowitsch who accepted to supervise my thesis after my request. He is a true champion of creativeness and passion for expanding the understandings of Facility Management worldwide. His work and life experiences were felt in his lectures and therefore I am more than honored to have this thesis supervised by him.

Abstract

This thesis questions the possibility of having FM as a sustainability tool in international development. Over the past decades, FM has been increasingly recognized and certified for its functions and roles within businesses across the world. It has been recognized in real estate generally but also in service industries. Even though FM tends to have a holistic approach in its function within a business, it seems to be missing in the international development industry.

How can FM assist or provide services in the international development industry? What can it introduce? Most importantly what value addition would it provide to the growing and crucial industry of international development?

Through literature review, research and case studies, this thesis laid out the necessary needed tools to incorporate FM in the international development domain and present possible strategic gains for the latter.

Upon which, several publications, papers, projects, and related studies were reviewed; the purpose was to understand how projects were working, importance of such interventions and what is lacking to achieve the goals and strategies of implementing agencies. And through which, it became evident that sustainability is key for international development projects in particular in the post project sustainability phase.

It was thus concluded that FM should be incorporated early in the planning stage of projects to ensure sustainability in the post project completion hence leading to further diversification in local talent and national economic gains through job creation.

List of Abbreviations

ANSI	American National Standards Institute
CAFM	Computer Aided Facility Management
CEN	Committee for Standardization
DESA	Department of Economic and Social Affairs
DFID	Department of International Development, United Kingdom
DMFs	Design and Monitoring Frameworks
FM	Facility Management
FOM	Facility Object Management
FPM	Facility Performance Management
FRM	Facility Resource Management
FSM	Facility Services Management
ID	International Development
IDA	International Development Association
IEC	International Electrotechnical Commission
IFMA	International Facility Management Association
IFMA	International Facility Management Association
ISO	International Organization for Standardization
JD	Joint Declaration
KPIs	Key Performance Indicators
MDGs	Millennium Development Goals
MEL	Monitoring, Evaluation and Learning
MoU	Memorandum of Understanding
MS	Member States
MSMSEs	Micro-small and Medium sized Enterprises
NGOs	Non-Governmental Organizations
PDF	Project Development Facilities
PLC	Project Life Cycle
PMP	Project Management Process

PPP	Public-Private Partnership
PPPC	PPP Council/Committee
PPPU	PPP Unit
PPSS	Post-Project Sustainability Strategy
PSS	Post-Project Sustainability
REM	Real Estate Management
RIFF	Regional Infrastructure Financing Facility
RMU	Risk Management Unit
RRPs	Report and Recommendations of the President
SDGs	Sustainable Development Goals
SMART	Smart, Measurable, Achievable, Relevant, Timely
SMEs	Small Medium sized Enterprises
TAG	Technical Advisory Group
TC	Technical Committee
TOTs	Training of Trainers
UN	United Nations
UNECE	United Nations Economic Commission for Europe
USAID	United States Agency for International Development
VGF	Viability Gap Funds
WTDC	World Telecommunication Development Conference

Contents

Chapter 1: Introduction

1.1 International Development – United Nations & its Sustainable Development Goals

The United Nations is an international organization created in 1945 by 51 countries after the Second World War, dedicated to the preservation of international peace and security, the establishment of friendly ties between nations and the promotion of social change, better standards of life and human rights.

Due to its unique international nature and the powers conferred on it by its founding Charter, the Organization may take action on a wide range of issues and provide a forum for its 193 Member States to express their views through the General Assembly, the Security Council, the Economic and Social Council and other bodies and committees.

The work of the United Nations has crossed every corner of the globe. Although best known for peacekeeping, peace building, conflict prevention and humanitarian assistance, there are many other ways in which the United Nations and its structure (specialized organizations, funds and programs) impact our lives and make the world a better place. The UN Organization works on a broad number of diverse issues, from sustainable development, environmental and refugee security, disaster relief, counter-terrorism, disarmament and non-proliferation, to the promotion of democracy, human rights , gender equality and the empowerment of women, governance, economic and social development and international health, landmine clearance, the expansion of food production

The UN has four primary objectives:

- To preserve harmony in the world
- Establishing friendly ties between nations

- Helping nations work together to better the lives of disadvantaged people, to tackle poverty, disease, and illiteracy, and to promote respect for one another's rights and freedoms
- To be a hub for harmonizing the acts of nations to achieve these objectives

The key institutions of the United Nations are the General Assembly, the Security Council, the Economic and Social Council, the Trustee Council, the International Court of Justice and the Secretariat of the United Nations. They were all formed in 1945 when the UN was created.

General Assembly

The General Assembly is the largest deliberative, policy-making and representative body of the United Nations. All 193 UN Member States are represented in the General Assembly, making it the only UN body with universal representation. Each year, in September, the full membership of the United Nations gathers at the General Assembly Hall in New York for the annual session of the General Assembly and the general debate that many heads of state attend and discuss.

Security Council

Under the Charter of the United Nations, the Security Council has a primary responsibility for the preservation of international peace and security. It has 15 members (5 permanent members and 10 non-permanent members). Each Member shall have one vote. Under the Charter, all Member States are bound to comply with the decisions of the Council. The Security Council takes the lead in deciding whether there is a threat to peace or an act of aggression. It calls on the parties to the dispute to resolve the dispute by peaceful means and proposes methods of adjustment or terms of settlement. In certain situations, the Security Council can resort to imposing sanctions or even allow the use of force to preserve or restore international peace and security. The Security Council has a Presidency that rotates every month.

Economic and Social Council

The Economic and Social Council is the key body for cooperation, policy analysis, policy dialog and recommendations on economic, social, and environmental issues, as well as for the implementation of internationally negotiated development objectives. It acts as a central structure for the activities of the UN system and its specialist agencies in the economic, social, and environmental fields, overseeing its branches and expert bodies.

Trusteeship Council

The Trusteeship Council was established in 1945 by the Charter of the United Nations, in accordance with Chapter XIII, to provide international oversight of 11 Trust Territories which had been governed by seven Member States and to ensure that sufficient measures were taken to prepare the Territories for self-government and independence.

International Court of Justice

The International Court of Justice is the main judicial body of the United Nations. The task of the Court is to resolve, in accordance with international law, the legal disputes referred to it by the States and to provide advisory opinions on the legal issues referred to it by the approved United Nations bodies and specialized agencies.

Secretariat

The Secretariat is made up of the Secretary-General and tens of thousands of foreign UN personnel who carry out the day-to-day work of the UN as required by the General Assembly and the other key organs of the UN such as the organizations of UNDP, World Bank, etc.

Funds and Programmes

The United Nations Development Program operates in nearly 170 countries and territories to help eliminate poverty, minimize inequality, and create resilience so that

countries can maintain progress. As the UN Development Agency, the UNDP plays a vital role in helping countries achieve the goals of sustainable development.

The United Nations Environment Programme established in 1972, is the voice for the environment within the United Nations system. UNEP acts as a catalyst, advocate, educate, and facilitate the promotion of the wise use and sustainable development of the global environment.

The United Nations Population Fund – UNFPA is the lead agency of the United Nations to deliver a world where every pregnancy is desired, every birth is healthy and every young person 's potential is fulfilled.

The United Nations Human Settlements Program is to encourage the establishment of socially and environmentally sustainable human settlements and to provide sufficient shelter for all.

The United Nations Children's Fund – UNICEF works in 190 countries and territories to save children's lives, protect their rights, and help them understand their potential from early childhood to adolescence.

The goal of the **World Food Program –** WFP is to eliminate hunger and malnutrition. It is the largest humanitarian organization in the world. The program feeds about 80 million people per year in about 75 countries.

UN Specialized Agencies

UN specialist entities are self-governing bodies associated with the United Nations. All of them have been brought into touch with the UN through signed agreements. Some were affiliated with the League of Nations. Others were produced almost at the same time as the UN. Others have been set up by the UN to meet emerging needs.

- **The Food and Agriculture Organization** is leading international efforts to tackle hunger. It is both a forum for negotiating agreements between developing and developed countries and a source of technical expertise and information for development assistance.
- **The International Civil Aviation Organization** shall establish standards for global air transport and shall assist its 192 Member States to share the world's skies for their socio-economic benefit.
- Since its establishment in 1977, the **International Fund for Agricultural Development** has focused exclusively on rural poverty reduction, working with vulnerable rural populations in developing countries to eradicate poverty, hunger and malnutrition, increase production and income, and improve the quality of their lives.
- **The International Labor Organisation** supports international labor rights by formulating international principles on freedom of expression, collective bargaining, the elimination of forced labor and equality of opportunity and treatment.
- **The International Monetary Fund** supports economic development and employment by providing temporary financial support to countries to help ease the adjustment of balance of payments and technical assistance. The IMF currently has $28 billion in unpaid loans to 74 countries.
- **The International Maritime Organization** has developed a comprehensive maritime regulatory system addressing safety and environmental problems, legal issues, technical cooperation, protection, and performance.
- **The International Telecommunications Union** is a United Nations specialized information and communication technology organization. It is committed to connecting all the people of the world, wherever they live and whatever their means.
- **The United Nations Educational, Science and Cultural Organization** works on everything from teacher preparation to improving education around the world to preserving significant historical and cultural sites around the

world. UNESCO has added this year 28 additional World Heritage Sites to the list of irreplaceable treasures to be preserved for today's travelers and future generations.

- **The United Nations Industrial Development Organization** is a specialized agency of the United Nations that supports industrial development in the fields of poverty reduction, inclusive globalization, and environmental sustainability.
- **The World Tourism Organization** is the United Nations Body responsible for promoting responsible, sustainable, and widely available tourism.
- **The Universal Postal Union** is the primary platform for cooperation between postal operators. It helps maintain a truly universal network of up-to-date goods and services.
- **The World Health Organization** is the governing and organizing body for international health in the United Nations system. The goal of the WHO is to achieve the highest possible level of health for all peoples. Health, as described in the WHO Constitution, is a condition of full physical, mental, and social well-being.
- **The World Intellectual Property Organization** safeguards intellectual property globally.
- **The World Meteorological Organization** promotes, among other things, the free exchange of meteorological data and the promotion of its use in related industries.
- **The World Bank** focuses on reducing poverty and improving living conditions worldwide through, among other things, the provision of low-interest loans, interest-free credit and grants for education, health, infrastructure, and communications to developing countries. To facilitate such loans, the World Bank operates through the following institutions:
    - International Bank for Reconstruction and Development (IBRD)
    - International Centre for Settlement of Investment Disputes (ICSID)
    - International Development Association (IDA)

- International Finance Corporation (IFC)
- Multilateral Investment Guarantee Agency (MIGA)

Other Entities and Bodies

The Joint United Nations Program on HIV/AIDS (UNAIDS) is leading and encouraging the world to achieve its common goal of zero new HIV infections, zero prejudice and zero AIDS-related deaths. As part of the Sustainable Development Goals, UNAIDS unites the efforts of 11 UN organizations (UNHCR, UNICEF, WFP, UNDP, UNFPA, UNODC, UN Women, ILO, UNESCO, WHO and the World Bank) and works together with global and national partners to end the AIDS epidemic by 2030.

The UN High Commissioner for Refugees UNHCR protects refugees worldwide and facilitates their return home or resettlement.

The United Nations Institute for Disarmament Research develops ideas and encourages action on disarmament and security.

The United Nations Institute for Training and Research improves the effectiveness of the UN through diplomatic training and increases the impact of national actions through public awareness-raising, education, and training of public policy officials.

The United Nations Office for Project Services is empowering people develop better lives and helping countries promote peace and sustainable growth through sustainable infrastructure.

The United Nations Relief and Works Agency for Palestine Refugees has contributed to the health and human growth of Palestinian refugees.

The United Nations System Staff College develops and delivers training programs for the workers of the UN system and its partners.

The University of the United Nations offers high quality, evidence-based analysis, and constructive guidance to policy makers.

UN Women incorporates and expands on the essential work that focuses primarily on gender equality and empowerment of women.

Related Organizations

- The Preparatory Commission for the Comprehensive Nuclear-Test-Ban (CTBTO)
- The International Atomic Energy Agency (IAEA)
- The International Organization for Migration (IOM)
- The UN Organisation for the Prohibition of Chemical Weapons
- The UNFCCC Secretariat (UN Climate Change)
- The World Trade Organization (WTO)
- The International Trade Centre (ITC)

1.1.1 Sustainable Development Goals, how does it work?

Sustainable development has been identified as growth that meets the needs of the present without sacrificing future generations' efforts to create a future for people and the world that is inclusive, sustainable, and resilient.

In order to achieve sustainable development, three main components must be harmonized: economic growth, social inclusion, and environmental conservation. These elements are interlinked and are all important to the well-being of individuals and societies.

Figure 1 - 17 Sustainable Development Goals (SDGs)[1]

The Sustainable Development Goals are a global call for action to end hunger, protect the earth and better the lives and futures of everyone, all over the world. In 2015, all of the UN Member States adopted the 17 Targets as part of the 2030 Roadmap for Sustainable Growth, which lay out a 15-year strategy to meet the goals.

[1] The Sustainable Development Goal Report 2019

Progress is being made in many ways today, but overall, action to achieve the targets is not yet occurring at the pace or size necessary. To meet the goals by 2030, 2020 would usher in a decade of bold action.

In September 2019, world leaders called for "Decade of Action" to achieve the SDGs. Thus, pledging financial mobilization, concrete in-country improvements for national implementation of rules and regulations, and institutional capacity building.

In addition, these efforts include:

- Increased resources
- Innovation and smart solutions
- Consolidation of new policies, financial budgets, and regulatory frameworks of municipalities
- Other stakeholders such as academia, civil society

It is envisaged that these efforts would lead eventually to improved implementation of plans in achieving the SDGs ad Agenda 2030.

The essence of this decade, 2020-2030, is the urgency of action to limit the growth of poverty, strengthening women and youth empowerment, and tackling the growing challenges posed by climate change.

It is evident that through the past decade, people are living a better live compared to 1990s. Yet, climate change challenges and social inequalities threaten such progress for improved livelihood. Therefore, it is crucial for countries to have their governments unleash investments in policy reforms addressing fundamental social change, technology, and innovation.

Upon which, "The Addis Ababa Action Agenda" during the "Third International Conference on Financing for Development", established the transformation needed in policies to support the implementation of action plans to achieve the SDGs. The implementation and plans for action are given to countries to decide how to develop their own: regulatory policy framework, initiatives, partnerships and where stakeholders are responsible. Therefore, SDGs are a pillar for countries to lead efforts in achieving international responsibilities. However, these nationally in-country initiatives for sustainable development strategies need financial mobilization schemes and resources. As a result, 2030 Agenda acknowledges this aspect of national development strategies through multi-stakeholder partnerships, namely:

- Federal governments and local municipalities
- Civil society
- Private sector entities

In order to monitor and evaluate the progress of countries to achieve the SDGs, the UN has set up 169 indicators for 2030 Agenda. These global indicators were developed in a way to monitor and review milestones to achieve the SDGs at a global level. These indicators were a result of a multi-task force set up and held in March 2017 and approved unanimously in the 48th United Nations Statistics Commission. Moreover, national governments will also develop their own set of indicators to monitor and review their own progress to achieve the SDGs.

Member States have appointed statisticians to develop indicators of SDGs and their 2030 Agenda targets particularly for each one; meaning there will be around 300 indicators for the entire global targets.

These efforts by Member States however need a mechanism to consolidate their progress and findings along their journey to achieve the SDGs. As such, the UN set up a process where an "SDG Progress Report" is published by the Secretary-General.

This report is generated after the annual meetings of the "High -level Political Forum" on addressing the SDGs in a global context, combining thus all efforts by Member States.

It is important to reiterate that the "The Addis Ababa Action Agenda" and the collectively approved outcome of the "Third International Conference on Financing for Development" sets forth the ways and methods to have an ascertain way forward to not only support the implementation of SDGs and related pans but also the mobilization of resources to do so.

1.1.2 UN International Development and public sector

United Nations organizations work closely with their Member States through their governments and national related institutions to achieve international development goals, namely the SDGs. These combined efforts produce a positive impact to the national sustainable development plan. Yet, these efforts are driven by strategies which intend to incorporate a holistic approach to achieve the SDGs. As a result, a consolidated report namely "The World Public Sector Report 2018" was published to incorporate country's government efforts to transform policies which suit the implementation to achieve the SDGs.

The report is planned and developed to address cross-functional integration approaches namely:

- Horizontal integration
- Vertical integration
- Engaging stakeholders
- Integrated approaches for migration, health and in post-conflict contexts
- Working together: Integration, and Institutions

Horizontal integration

Many Member States countries of the UN are incorporating the SDGs into their own development-specific plan. Out of 60 countries, "The World Public Sector Report 2018" found that half of the countries established innovative structures and tools designated for plans implementing the achievement of SDGs.

Vertical integration for the implementation of the SDGs

Local governments are highly active in many countries with regard to SDGs. At the planning stage of policymaking, many sub-national governments have aligned their strategies and plans with the SDGs, sometimes under a national legal mandate. At the implementation stage, the drive for government-wide alignment may come from a national or sub-national level.

Engaging stakeholders for integrated implementation of the SDGs

Coordinated action between governments and all stakeholders include the broad reach of the 2030 Agenda. The report finds that SDG stakeholder engagement has taken place through various activities, including: raising awareness of the 2030 Agenda; adapting and prioritizing the objectives to the national context; developing national implementation plans for the SDGs; implementing them; and monitoring and reviewing them. Therefore, lessons learned from the functioning of such mechanisms of engagement could inform current efforts around the SDGs. Several countries have developed multi-stakeholder partnerships or developed frameworks for SDG-related partnerships. The Netherlands, for example, has a broad coalition of more than 75 stakeholders known as the "Global Goals Charter NL".

Integrated approaches for migration, health and in post-conflict contexts

The report illustrates three topics: international migration, health and sustainable development within the post-conflict context and the importance of integrated approaches.

There are multiple connections between international migration and sustainable development, as demonstrated by ongoing international discussions around a compact worldwide for safe, orderly, and regular migration. Multidimensional approaches, often involving multiple institutions and players, are necessary for public authorities and administration to adequately address these connections at the national level. In a sample of 29 countries representing different regional economic, social, and political backgrounds, this report examined national institutions and immigration policies with particular emphasis upon labor and education and health for migrants or refugees. It identified a wide range of institutional settings and challenges to integration. It showed that local governments play a vital role in addressing migrants' needs, and also that stakeholders and the migrants themselves play an equally important role in supporting migration's economic and social integration.

In addition, the report examined how nations have institutionalized integrated health approaches, that take into account the multiple linkages between health and other policies, including food, nutrition and consumption. There are abundant examples of practical approaches to health policy integration. One is "Health in All Policies", an approach that takes account of the health implications of policy choices in different sectors, both in developed and developing countries. Another example, as illustrated in the report, are tools for mobilizing and spreading data from multiple sources. In different contexts, many different types of institutional mechanisms and structures have been tried and made the healthcare sector a pioneer in integrated approaches.

Finally, in post-conflict contexts, this report recognized the particular importance of political integration. In post-conflict contexts it stated the challenges to achieve the SDGs than elsewhere. Three generic types of issues were addressed in the countries emerging from conflict: ensuring quick growth; restoring the basic functions of the State; and moving to sustainable development; and mobilizing low-income and narrow fiscal areas. Several countries have used SDGs as their framework to align their strategies and plans for their long-term development and other instruments,

such as budgetary processes. Chad, Colombia, Sierra Leone, Solomon Islands and Somalia, for example, have explicitly linked their national plans and strategies to SDGs among the countries affected by conflict.

Working together: Integration, Institutions, and the Sustainable Development Goals
The achievement of the SDGs is not an exercise to reach the individual objectives, but rather an exercise in cooperation and joint efforts between government and various stakeholders at a level that has not yet been seen. The 2018 World Public Sector Report underlined certain institutional approaches that have been put forward by countries for this goal since 2015.

1.1.3 UN International Development and private sector

The former Secretary General of the United Nations Bank Ki-moon once said addressing the private sector: "UN and business need each other. We need your innovation, your initiative, your prowess in technology. But enterprise also needs the UN. The work of the UN can be seen in a very real sense as seeking to create the ideal environment in which businesses can thrive". The UN and the private sector are actively working all over the world to tackle urgent problems related to:

- Social and economic development
- Rights of people
- Peace and safety
- Humanitarian support
- Environment

Business today is a key partner in achieving its objectives and marking a further chapter in economic relations with the United Nations, which has been restricted to the 1990s. This cooperation amongst the UN and private sector is driven by the mutual recognition of the SDGs.

There are a number of critical common goals – building markets, combating corruption, protecting the environment, increasing food security, and guaranteeing social inclusion – between the United Nations and businesses. Companies operating in the interdependent world today are more affected than ever by these challenges, whether they are domestically, politically, or economically.

Nearly all UN bodies work on a wide range of issues such as climate change, decent work, health systems, educational reform, and humanitarian catastrophes, together with companies in the private sector. A number of approaches are adopted such as international coalitions and community initiatives, timebound projects and broad value-based action frameworks, individual company commitments and collective multi-stakeholder initiatives.

Despite various issues and approaches addressed, three broad categories describe ways of contributing to United Nations objectives by the private sector:

- Key business and value chains
- Social and philanthropic investments
- Advocacy, policy dialog and framework institutions

The SDGs pledge the improvement of life quality for billions of people by 2030 and this makes the pillar and essence for the UN to engage with private sector entities: how to improve lives together?

The achievement of the SDGs needs a strengthened private sector that provide economic growth for its employees. The private sector companies along with their business strategies, missions, visions, and operations, large or small, can contribute to the UN SDGs.

The private sector has widely adopted goals and objectives for the promotion of Corporate Social Responsibility (CSR) and sustainability. For materiality, it is

necessary to tailor objectives and goals for specific business contexts. However, to promote meaningful comparisons of the performance of sustainable development, a common reference point is also necessary. This reference point should be provided in the future by the UN SDGs.

From private sector's perspective, their ability to tackle issues like that of the SDGs depends on the future of the markets. Long-term financial success can only be guaranteed in today's world if it goes hand in hand with environmental management, social responsibility, and good ethics. Therefore, SDGs should have a mechanism to provide businesses with mitigation measures for risks, assist in lifting up limits and barriers in trade, and encourage governments to enable an investment environment for creating new markets and adapting an integrated approach for policies to collaborate effectively.

There is a clear business case for engagement for each individual goal that is proposed by governments on the basis of the universal UN principles. The SDGs can set guidelines for investors from the maximization of short-term profit to long-term value generation, aligning certain investment portfolios with long-term public priorities. New forms of collaboration could unlock efficient ways to reduce investment risk while shifting the allocation of assets to better align with policy priorities. Crucial resources can be unlocked for implementation for either businesses or investors.

The private sector has an important role not only in financial support and specific competences, but also innovative solutions, while academia must offer scientific support and models for its implementation. Civil society can support it by highlighting the issues that are relevant to citizens. As such and in order for collaboration to succeed, governments must provide the policy framework, and sometimes allocate funds from capital spending.

Sustainable development partnerships are primarily locally and nationally established and developed from there, not from a certain international point of view but rather from a national policy level view. For example, both the Global Pact of the UN and UNIDO coordinated their efforts through more than 80 country-based Global Compact Local Networks, in numerous new and unexpected combinations to initiate an engagement among public and private sectors and civil society groups.

This brings us to the round of consultations on private sector commitment to the post-2015 agenda and sustainable development goals by a wide range of actors at the national level. Sometimes participants were aggregated regionally or even globally, but realities on the ground were always considered.

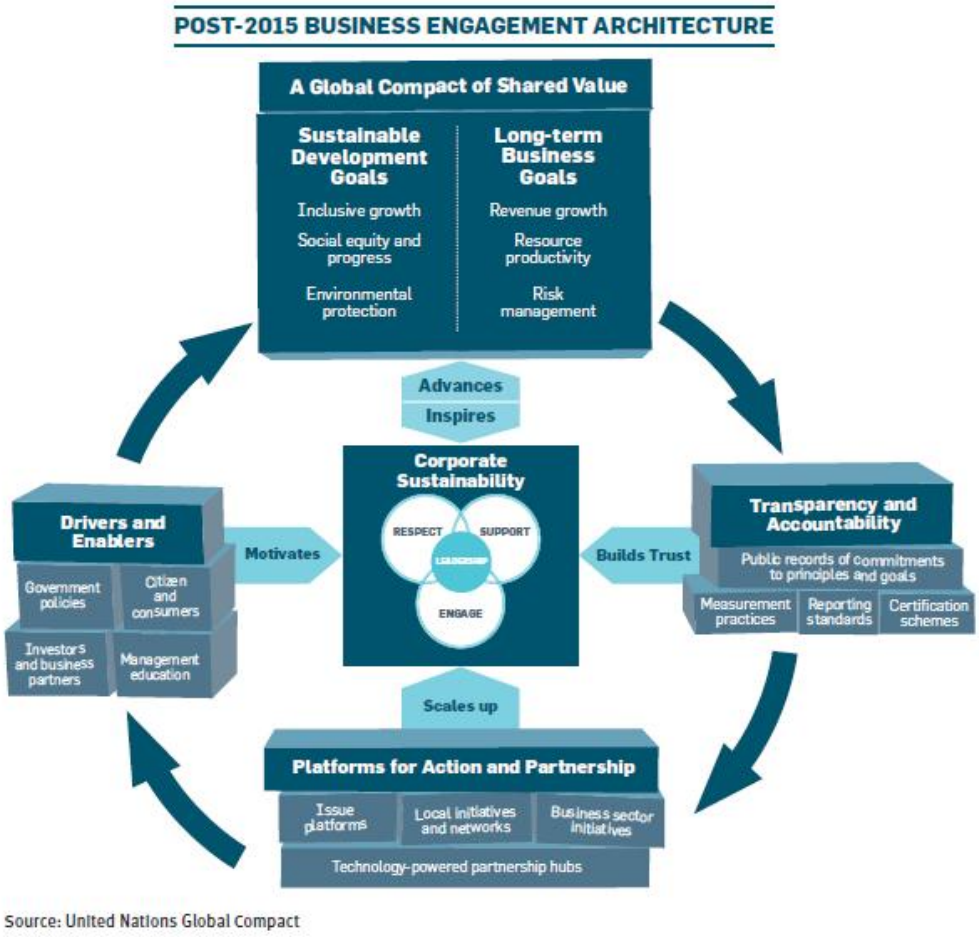

Figure 2 - United Nations post MDGs Business Engagement Architecture[2]

More businesses are growing eager to witness successful development across the globe. Businesses achieve long-term objectives and enjoy successes when the entire globe is enjoying prosperity economically and socially. Yet, businesses are similar to people: they encounter challenges with conflict, suffer losses in the context of disease such as COVID-19 pandemic, arbitrary government practices and malfunctioning economies encountering increased poverty. It is therefore important for the world to be increasingly transparent and interlinked as it creates awareness to businesses of their strategic interest in using the development strength and contribute through its direct involvement with stakeholders, to engage in the action plans to

[2] See "Series of Dialogues on Means of Implementation of the Post-2015 Development Agenda – Engaging with the Private Sector in the Post-2015, Consultations Report on 2014" page 6

achieve the SDGs. As a result, businesses that integrate sustainability within their operations are in long-term positions of strength including but not restricted to: risk management opportunities, new markets and product and service innovation as well as enhanced trust and loyalty for consumers.

In addition, we have seen a historic convergence, on the one hand, between the incorporation of SDGs into business models of the social and environmental dimensions and the business-driven development of governments and multilateral institutions on the other. Corporate sustainability – defined as long-term financial, social, environmental as well as ethical value delivery for a company – is becoming a global mainstream concept, including emerging, developing, and post-centralized economies with new and unforeseen ways.

Companies also have duties. They are more and more aware of the need for social and legal certifications to operate. Corporations are increasingly expected to manage their societal impacts on people, workers, and the environment. Therefore, corporate sustainability involves both compliance with universal principles in these areas and proactive support for a sustainability agenda.

This conversation about the roles and responsibilities of the private sector to achieve the SDGs has been underway long time ago. The need for private sector's engagement and contribution to the achievement of SDGs, stems from the strategic way businesses possess to reach local people and meet their needs. Several businesses acknowledge the global development challenges, and as a result have adapted changes in their systems to produce a positive impact through local sustainable development namely, the promotion of local infrastructure, the creation of jobs for youth and women, the adoption of new forms of sustainable manufacturing and consumption, access to markets, technology and innovation. Moreover, these changes lead business interests to become more resilient to domestic and external shocks.

Corporate sustainability growth is reflected in responsible investment and private sustainability financing movements, which lead to an increasing number of long-term institutional investors adopting principles of sustainability – by unleashing trillions of dollars of investment funds to meet human needs for innovation, infrastructure, and provision of services. The shift to a more broad-based sustainable financing platform should aim to create win-win solutions that recognize and are capable of responding to the various government and private sector needs and interests. This represents a great opportunity to ensure that business involvement is deep and central to any discussion and further negotiations after 2030.

This interaction could be doubled. Governments should on the one hand, become open to opportunities for international and local partnership and cooperation while providing a consistent policy of involvement and contributions to increased national industrial and wider development priorities for private sector actors. It was clear in the last decades that instead of declining the role of governments, they moved to the provision of the permissible framework needed to promote private sector expansion and force, by exercising direct ownership and controls on institutions for economic, environmental and social development.

It is particularly important in this respect, that the growth of businesses and sectors should be further promoted, through targeted commitments for businesses all over the world, ranging from large multinationals to public enterprises and Micro, Small and Medium-sized Enterprises (MSMEs). In order to enable MSMEs to exploit their potential domestically and internationally, the need to create a business environment that allows them to manage their industry and develop sustainably is becoming increasingly recognized, for example by means of guidelines to address capital availabilities and capacity building.

On the contrary, companies and private companies, including large multinationals, are encouraged to observe voluntary sustainability standards in line with their contexts and capabilities, if not obliged to comply with compulsory standards,

including social and environmental standards. Enterprises should be able to adopt long-term investment and network strategies that are both business meaningful and help the common good. Sustainable enterprises and industries are natural partners in this respect, the UN system, and the broader development community.

1.1.4 UN International Development through PPP (Public-Private Partnership)

Concessions, in which the private sector only works, maintains, and performs infrastructure development or provides services of general economic interest, are the most common type of PPPs, dating back thousands of years. Concessions were used during the Roman Empire as legal tools for road building, public baths, and market management. Other well-known examples are Medieval Europe where the Rhineland fees were granted to a French nobleman named Luis de Bernam as early in 1438 (see Bezançon, 2004). Since the turn of the 17th and 18th centuries, many installations of infrastructure (e.g. waterways, roads, and railways) have been found to have been privately funded under concession contracts in Europe and then in America, China, and Japan.

In the 1970s, when neo-liberal thinking began to question the predominant Keynesian paradigm and the country's part in the context of poor economic performance, the term "Private Public Partnership" or PPP was coined and popularized. PPPs have frequently been used for the purpose of promoting privatisation, in alternatives to bureaucratic public services and inefficient public companies (see Gomes, 1990). It was argued that the main means of decreasing the role of the state, increasing the efficiency of public administration and public services and reversing previously alleged crowds from the private sectors, was to pass public duties to the private sector actors (i.e., to either privatize or contract them, or at least engage them in partnerships with private companies).

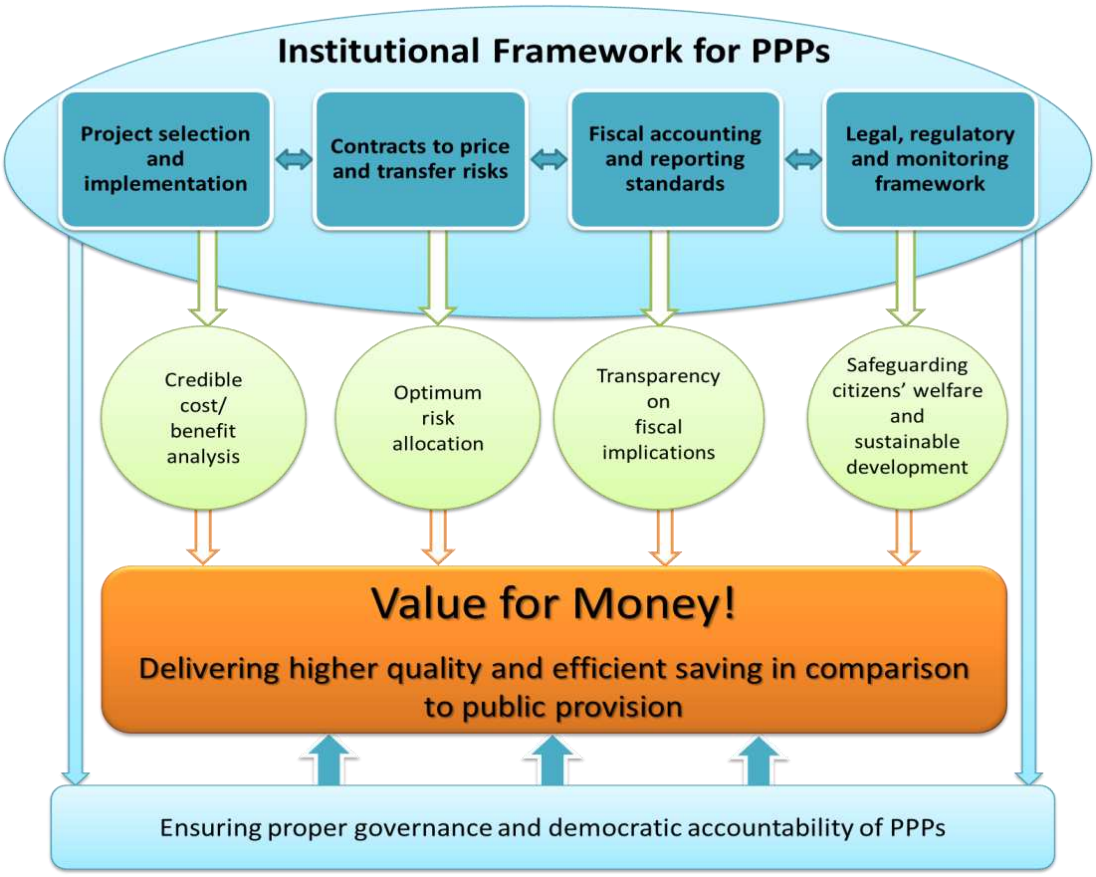

Figure 3 - Institutional Framework for PPPs[3]

Overall, the enabling institutional framework with all the above-mentioned four interconnected capabilities would also enhance the accountability and popular acceptance of PPPs by strengthening transparency and government monitoring and preserving the public interest.

The establishment of these institutional and management capabilities would require international community assistance in the form of technical assistance and capacity building for several developing countries. For example, an internationally accepted accounting and reporting standard, which can encourage transparency on the tax consequences of PPPs, is a specific area in which global action would be helpful.

[3] See "Public-Private Partnerships and the 2030 Agenda for Sustainable Development: Fir for purpose?" page 17

This brings us to the question of continued work to develop international PPP guidelines. Many important initiatives at national and international levels have recently been undertaken. Nevertheless, these different initiatives still need to be combined and evaluated in an inclusive way, in the context of the Sustainable Development Agenda 2030. The commitment by world leaders to "inclusive, open and transparent discussion during the development and adoption of guidelines and documentation on the use of PPPs and to build a knowledge base and to exchange the lessons learned from regional and world forums" at the third international conference on development funding (which took place in Addis Ababa in July 2015) is an important step forward. The UN can play a leading role in shaping these new guidelines for the PPPs as the most universal forum for international policy making to support the full implementation of the Sustainable Development Agenda 2030.

SDGs can be incorporated in PPP programs in many ways for example:

- Including actions in PPP to ensure that SDGs are considered in PPP projects and
- Addressing SDGs in the PPP (design, structure, and management) program operations.

The following sections present pragmatic actions to exploit these opportunities after looking at what PPP programs usually involve.

PPP Programmes

To facilitate and promote the development of PPP in their own countries, many countries set up PPP programs. This is necessary since the existing political, legal, and institutional frameworks do not always adequately cover the PPPs and require specific support measures.

PPP programs include, bearing in mind differences between countries, the following:

- PPP – The overall vision, goals, definitions, modalities, institutional measures, and other PPP issues are outlined in the PPP Policy. A PPP policy is typically a formal government policy document, although it can be laid down as an "informal" strategy or guide document in some instances. Then, specific laws and/or regulations to implement the policy on PPP are considered.
- Procedures for the implementation of PPP projects: special procedures, usually include an approval processes, to identify, prepare, appoint, and manage PPP projects.
- Institutional arrangements: establishment of public institutional responsibilities, with often the creation of specific public PPP institutions such as the PPP Council/Committee (PPPC), the PPP Unit (PPPU), the Risk Management Unit (RMU) and in ministries and public agencies, potentially PPP units/centers/nodes.
- Specific support instruments—such as Project Development Facilities (PDF, Viability Gap Funds (VGF) and transaction advisory panels sometimes required to provide resources and capacities in carrying out projects.
- Project pipelines – processes that are often organised and supported in identifying, prioritizing, and choosing a PPP pipeline.
- Skill development and training assistance – capacity building arrangements and skills training required to implement PPP projects.

Project-oriented SDGs Measures

The format of PPP programs influences the contribution to sustainable development of PPP projects: SDGs can be integrated into PPP policies and into PPP legislation or regulations, with the explicit reference that PPPs are expected to contribute towards sustainable development being included as a commitment to achieve PPPs. In addition, SDGs may be identified as one of the direct targets for the project delivered by PPPs for public infrastructure and services. Likewise, gender commitments may

also be specified, as well as climate resilience and inclusion. This in turn should be adequately reflected in the legal framework (for example, when establishing environmental and social risk management requirements).

In addition, PPP project procedures may include specific SDGs requirements such as setting project selection criteria, decision-making parameters, feasibility study content, tender documents and so forth.

Moreover, PPP programs can integrate specific capacity building and support to address SDGs through the PPP projects – specific trainings on SDGs can be included in the PPP capacity building, training, and support activities. That might include:

- Design and implementation of focused SDG training
- Clarifying the contribution of PPP projects directly and indirectly to SDGs
- Presentation of specific measures to maximize PPP contribution to SDGs in projects

SDGs in the Operation of PPP programmes

SDGs in the way in which the PPP program functions can also be dealt with. This should also produce demo effects. Possible action includes:

- Communication of SDG's importance – it is always possible to indicate the importance of achieving SDGs in formal and informal communication with stakeholders participating in the PPP programme. This can ensure that the focus on SDGs is consistent and sustained
- Encouraging gender balance and integration in the composition and staff of PPP institutions, and advisory and transactional teams – gender and inclusiveness, of PPP institutions. This can guarantee equal representation and help transfer skills and knowledge
- Ensure effective and transparent functioning of PPP institutions—making an important contribution to peace, justice, and institutional strength by ensuring

the efficient and transparent operation of those institutions and the reliability of their procedures

Implementation and Support

In general, it is already quite complex and challenging to provide public infrastructure and services using PPP. It is therefore important that countries do not complicate PPP delivery or create unnecessary barriers and bottlenecks while trying to ensure SDGs are met. The challenge is to look at how PPPs are able to provide public infrastructure and services, while optimizing the contribution of SDGs constructively.

There are already well-developed PPP frameworks in some countries, while the framework in others still emerges. Many PPP projects have already been implemented and an active PPP market exists in certain countries such as that of Saudi Arabia and UAE, whereas other PPP projects will still be delivered.

Consequently, implementing PPPs lead countries to encounter either of the following when considering SDGs:

- To examine if current SDGs are adequately considered by existing PPP programs which could lead to program reviews or
- SDGs are integrated in the development of new PPP programs.

PPPs need to have institutional capacity to build, administer and evaluate PPPs for the purposes of becoming a valuable tool to finance key economic infrastructure projects. In the form of technical support and capacity building, this would require support from the international community in several developing countries.

Sustainable development requires private financing, not only to develop infrastructure, but also to improve access to infrastructure services that put individuals and the world first. The role of the private sector should therefore not

only provide financial resources, but also contribute to the quality of the assets and services offered by infrastructure.

1.1.5 UN International Development in facilities

In different sectors, from infrastructure to agriculture processing and capacity building projects, the UN operates with its various organizations to achieve the SDGs. This enables the various UN organisations, to work precisely on the needs of the target country's people.

The work with facilities is not designed for one organization, under the specialized agencies (see page 4, United Nations Specialized Agencies), but to the extent that a Member State considers fitting and necessary for its needs. These organizations have been financing, conducting, and implementing projects involving facilities in the past few decades. In addition, the UN focusses on two main categories of facilities through its development projects: industrial and non-industrial facilities.

Projects focusing on infrastructure, machinery, facilities, and energy sources in the industrial category include installations such as manufacturers, producers, or processors. The majority of these facilities should be noted in the group of MSMEs aimed at enhancing livelihoods and decent jobs compared to big corporations and/or companies.

In non-industrial category, installations within projects are aimed at building capacity for people through trainings, upgrading their skills and rehabilitation of their facilities, acquiring of international standardization and related certifications as well as technical workshops for employees working in the facilities such that of schools and training facilities.

The UN organizations which operate in such capacity through projects are listed below in Figure 4:

Figure 4 - UN Specialized Agencies

Each of these organizations has helped in a way or another development projects to achieve one or multiple SDGs through the establishment and/or upgrading of facilities. Nonetheless, not all of them operate or fund development project focused on facilities, for example IMF.

In this section, the importance of the latter in the spectrum of UN development will be shown by organizations with project examples focusing on facilities:

- FAO: FAO set up agricultural field schools in the Philippines to implement small scale systems of irrigation. In Zimbabwe, the FAO Food Project has provided 26 000 tonnes, plus suitable fertilizers for maize and sorghum seeds, which have significantly enhanced yields for 176 000 farm households. The priority of Niger was to reduce the malnutrition of 72 000 farmer family

groups, or some 500 000 inhabitants, in the event of an increased food crisis, causing a drought that devastated crops[4].

- ICAO: a strategic environmental assessment for identifying, elaborating, and assessing the impacts and potential alternatives of building a new airport was carried out in the Caribbean and South American regions (CAR/SAM)[5].
- IFAD: The China-IFAD South-South and Triangular Cooperation Facility was established in 2018 by IFAD, with a focus on poverty reduction, fighting malnutrition and promoting rural youth work in developing countries, to promote sustainable, inclusive rural transformation. It pursues the overall objective of mobilizing Global South knowledge, technology, and resources to speed up rural poverty alleviation, boost rural productivity and promote rural transformation[6].
- ILO: launched in 2007, the ILO's Technical Cooperation Program is the Cooperative Facility for Africa - CoopAfrica, under financing from DFID. CoopAfrica has 9 Eastern and South African countries in its offices in Dar-es-Salaam (Tanzania). CoopAfrica helps cooperatives improve governance, efficiency, and performance to enhance the capacity for job creation, market access, revenue generation, poverty reduction and social protection[7].
- ITU: WTDC-10 Regional Europe Initiatives agreed to assist Member States to offer e-accessibility to blind people and visually impaired persons (including Internet and information access) with the desired results of the development of relevant facility(s) (hardware and software) and the delivery of training for users and instructors[8].

[4] FOA (2011): European Union Food Facility Foundations For Future Action An Initial Review Of Selected Projects - http://www.fao.org/fileadmin/user_upload/ISFP/EuFF_web.pdf
[5] ICOA Technical Cooperation (2020) - https://www.icao.int/secretariat/TechnicalCooperation/Pages/projectcategories.aspx
[6] IFAD (2018): https://www.ifad.org/documents/38714170/40691558/China_SSTC_facility.pdf/bd236a69-43e1-4c1d-9d7c-0540f221c94d
[7] Patrick Develtere, Ignace Pollet & Fredrick Wanyama (eds.) (2008) https://ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---coop/documents/publication/wcms_735490.pdf
[8] ITU (2019): Europe Regional Initiatives Buenos Aires Action Plan 2018-2021 https://www.itu.int/en/ITU-D/Documents/RI_Europe.pdf

- UNESCO: the 2011 Expert Facility for Culture Strengthening of the System of Governance in Developing Countries was first established as part of a European Union-supported project. Initially there were recruited 30 international experts from 24 countries. This facility helped developing countries to strengthen their human or institutional capabilities and cultural governance systems during the period 2012-2014 through technical assistance missions[9].
- UNIDO: carries out projects that focus on four thematic areas: shared prosperity, competitiveness in the economy, environmental protection and knowledge and institutions enhancements. ·UNIDO implements projects in order to promote these areas and achieve the seventeen SDGs with particular focus on SDG 9.
- UNWTO: The UNWTO Technical Cooperation and Services aims to meet and support Member States' specific needs and to promote the tourist industry as a driving force for socio-economic growth and poverty alleviation through employment creation. The projects focus on sustainable tourism master planning at all levels, the establishment of tourism training centers, formulation and regulations, marketing program development, and national capacity building. The projects are based on sustainability policy[10].
- WHO: developed for Member States a health-care checklist to support the identification or establishment of the upgrades needed for health facilities. The core of health facilities has been laid down as basic core components that require less resources and more advanced core components that require additional resources. However, this differentiation may vary between countries and facilities based on size, requirements, priorities, resources, and contexts[11].

[9] UNESCO (2020): Diversity of Cultural Expressions
https://en.unesco.org/creativity/activities/strengthening-system-governance-culture
[10] World Tourism Organization (2020): A United Nations Specialized Agency
https://www.unwto.org/our-focus
[11] World Health Organization (2019): Antimicrobial Stewardship Programmes In Health-Care Facilities in Low – and Middle-Income Countries A Who Practical Toolkit

- WIPO: The Academy is a center of excellence for education and training in intellectual property (IP) for member countries of WIPO, especially developing, and countries in transition. The Academy contributes to human capacity building in IP, which is vital to innovation[12].
- WMO (World Hydrometry Support Facility): WMO has established HydroHub to meet those requirements. HydroHub has been designed specifically for building hydro and water monitoring operational systems and capacity, expanding the base of hydrological data, and exchanging functions, and facilitating free and open data sharing[13].
- IDA: The project RIFF aims at increasing long-term financing to private firms for selected electricity, transport, logistics and social infrastructure sectors. Regional infrastructure financing facility (RIFF) making it Africa's first such regional facility[14].

As noted above, a range of non-industrial to industrial facilities are the focus of these UN specialized agencies. The progress of these facilities, including the funding, the policy setting, the locations, and the human capital, which are affected by several factors. However, one key determinant of a UN-funded facility's successful goal, is the continuity of its operations following the aid provided; in other words, its sustainability after the project and the funding seizes. Nonetheless, sustainability as a factor in the project's implementation differ from one UN agency to another. For example, UNDP's sustainability factor for a non-industrial facility such as that of schools, is the continuity of having teachers and students in the school and that

https://apps.who.int/iris/bitstream/handle/10665/329404/9789241515481-eng.pdf?sequence=1&isAllowed=y

[12] World Intellectual Property Organization (2020) - https://www.wipo.int/academy/en/

[13] Global Hydrometry Support Facility (2020): What can we do to build a sustainable foundation for evidence-based policy, decision-making and conflict resolution in water resources management? https://ane4bf-datap1.s3-eu-west-1.amazonaws.com/wmocms/s3fs-public/ckeditor/files/HydroHub_FactSheet_201701.pdf?sGJpdpU683CKtkfkLj6jl94qS_tEsswa

[14] The World Bank (2020): Regional Infrastructure Finance Facility (RIFF) Project https://projects.worldbank.org/en/projects-operations/project-detail/P171967

education is never interrupted whereas UNOPS factor of sustainability for an industrial facility is the continuity of the facility's functions.

1.2 Sustainability in UN supported facilities

There is a significant amount of money each year in developing countries for community-based improvement projects. The aim is to improve socio-economic conditions for people in developing countries by funds often provided by bilateral and multilateral organisations, foundations, and the private sector. While substantial resources and efforts relate to the design, planning, implementation and evaluation of projects, significantly fewer resources are invested in the understanding of the development and sustainability of project components and results. Appropriate strategies and application to funders, program developers and participants, researchers, and other stakeholders, should include a conceptual and operational understanding of sustainability and a deliberate commitment to sustainable development.

Sustainability is considered and measured differently depending on the project and type of intervention. For instance, UN projects focusing on non-industrial facilities, considers the sustainability of the workshops held rather than the facilities themselves and the KPIs are predetermined at the concept phase. In addition, in the non-industrial category, sustainability of the facility itself is rarely regarded or emphasized. The fact that the functioning of the facility is sustainable as a tangible outcome through continued funding or assistance, is of great importance. This is because most projects aimed at training support, capacity building, awareness, safety standards and related fields are investing to achieve the sustainability of the facility's physical presence. This does not mean, however that the management of the facility is not important, but it is often disregarded leading to several gaps in the management of the facility.

On the other hand, projects focusing on industrial plants and main activities in the processing, manufacturing, and production processes of facilities. The planning and construction of such facilities is one phase of the project, even for infrastructure-related projects; the sustainability of the facilities is linked to structural resilience itself. For instance, WHO medical facilities focus on the facility's infrastructure and refrain from directly handling related subjects such as electricity, workspace, services, workspace, and related FM fields.

Heavy machinery and equipment are considered as an important sustainability factor in other United Nations specialized agencies for example UNIDO. This approach is not based exclusively on acquisition, machinery use and maintenance training. These interventions are designed to sustain the function of the plant: manufacturing, production, storing, or processing through equipment and machinery utilization. It is often regarded that these facilities sustain a post-project intervention by supporting the functioning and transferring knowledge fn the machinery and equipment to support the continuity of the facility's operations.

1.2.1 Sustainability for development: Challenges encountered

In all three dimensions of sustainable development – economic, social, and environmental – the world faces challenges. A broad range of "megatrends", for example, changing demographics, changing economic and social dynamics, technological advances and trends towards environmental deterioration has driven global challenges for sustainable development in the last few years. (See DESA 2013).

Inherent to sustainable development, are many stakeholders at a diverse level, from national to transnational, local and international NGOs, to smaller villages, etc. Consequently, to resolve complex poverty and sustainability problems, stakeholders can get complicated to work together at the right time and place.

Consider, for example, the single objective of "Affordable and Clean Energy" (SDG 7). Who should contribute to the development, production, installation, and maintenance of technologies to ensure universally accessible energy? Who contributes to the identification of what is "affordable" for different communities across the world? What is the interaction between Governments, the private sector, and communities in deciding on adequate and sustainable energy systems? Take into consideration only the differences between China and the US or across Africa.

These kinds of challenges in coordination exist for energy as well as poverty, food, health education, water, biodiversity, and the numerous other SDGs addresses. Thus, it is important that the right stakeholders and partners collaborate at the right time and place.

The main challenge is to ensure responsibility for progress towards meeting the SDGs with a certain degree of accountability. This must be linked at a national, local, and international level to mechanisms for doing so. Discussions on indicators and ways to monitor, assess and evaluate progress on SDGs are currently taking place, largely at national level.

We need to measure the inputs (nation X, for example, invested in what they said it would be invested in the A, B and C issues) as well as the results (i.e. have we actually achieved our aims of eradicating poverty, improving health and providing access to water, food and energy in nation X)?

However, we need powerful ways, in order to hold the parties responsible, to return this information back in the policy and political arena. This applies primarily to governments but also to other major private sector stakeholders, NGOs, and civil society. How can we ensure that SDGs are actually implemented if we do not create those sort of feedback loops to hold each other accountable?

The UN published in 2019 the Sustainable Development Goals report, which specifically examined the use of the latest available data to track global progress on SDGs and take stock of commitments as far as possible (see SDG Report, 2019).

While progress has been made, the report demonstrates that some challenges in certain areas are still monumental.

Precisely, the below Figure 5 illustrates how SDG9 has progressed since 2015:

Figure 5 - SDG9 progress track indicating the need for additional support for LDCs[15]

[15] United Nations, New York (2019): The Sustainable Development Goals Report
https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf

In the early stages of drafting the project, an innovative mechanism needs to be developed, as seen in Figure 5, to improve sustainability of infrastructures and facilities. This requires working collaboratively across the whole project management process amongst various stakeholders at Macro, Meso and Micro levels. In Chapter 4, this point is further elaborated. Yet in a nutshell, as important as involving policymakers and technical expertise in the concept stage, other stakeholders such as the private sector and FM should be included too to ensure sustainability.

1.2.2 Sustainability for facilities, how can it be achieved?

Current efforts and mechanisms to ensure sustainability in every facility supported by the project are in place but there is no apparent perspective on the management of facilities as per FM teachings and guidance. Technology and the race for resource optimisation are key to infrastructure in today's rapidly changing world. Since all the management functions in a project are considered such as finance and accounting, the management of facilities could provide substantial contributions to the optimization of resources and mitigation measures for the post-project sustainability of the facility if incorporated in the early stages. For example, many installations had to suspend operations during COVID-19 pandemic and in some cases, transform the whole functions of their operations. Unfortunate and extreme examples occurred in developing countries, with some recourse to labour, which has negatively affected unemployment. According to the UN, "already at the end of March 2020, a quarter of the 4 million, mostly female Bangladeshi garment workers, had been fired or furloughed. In the first half of April 2020, garments exports from Bangladesh declined by more than 80 per cent on a year-to-year basis[16]." This example showcases some of the areas that FM would have assisted in mitigating the measures of risks and contributed to minimize the impact of such an unexpected catastrophe.

[16] United Nations Department of Economic and Social Affairs (2020): UN/DESA Policy Brief #66: COVID-19 and the least developed countries https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-66-covid-19-and-the-least-developed-countries/

If FM was included at the design stage of this facility, one area FM would have assisted in is the management of workspace thus decreasing the number of employees working in the facility. This consideration would have assisted the FM manager to optimize costs from areas related to the facility's operations such as, utilizing one machine of garments instead of all the machines and production lines to avoid downsizing of employees.

An assessment by a professional FM expert could not only have diagnosed the impact of this crisis from an FM perspective but would also have carried out the analysis needed to avoid such a catastrophe in the future. This is why FM should be included with all the other stakeholders at the concept/planning stage of development projects.

In addition, and referring to the example of Bangladesh, small villages in developing countries rely highly on these facilities as it contributes directly to their livelihoods. UN development agencies aim for targeting those facilities for development to create a positive impact on the village's consequences for work, food safety, the environment and society. Therefore, even after the end and completion of projects, a strategy to ensure sustainability of the facility is necessary for the entire village and/or in other cases the country.

From the development point of view, several international agencies such as USAID, projects are developed and implemented to produce results, services and outcomes which are continually beyond the official project conclusion. In other words, when the project is officially completed, the results of the projects (be it the establishment of a training pr processing facility), needs to continue and attain successful durability in its operations.

Nonetheless, one must acknowledge the challenges in achieving such post-project strategy. Even the most successful projects will inevitably face the challenges of sustainability over time. Although many funders now advocate, and even require, the

inclusion of a workable sustainability plan and exit strategy as part of the project proposal. Project implementers generally invest little in understanding the concept of sustainability, or develop a concrete strategy to deal with sustainability during the entire project life cycle but not beyond it.

According to a special evaluation on Post-Completion Sustainability of Asian-Assisted Projects, it stated that there is a "need to have built-in mechanisms during project design to address risks to sustainability, which is normally lacking in Project Report and Recommendations of the President (RRPs) and Design and Monitoring Frameworks (DMFs) (e.g., mechanisms to ensure government commitment to recurrent cost funding, retention of staff trained by the projects, and involvement of relevant local stakeholders from the beginning with measures to empower their capacities in mobilizing local financial and human resources to sustain project outcomes and impacts)[17]." Therefore, sustainability is largely dependent on proper maintenance, preventive risk management, space allocation, optimization of energy resources, the workplace, IoT and facilities. As a result, Facility Management can play a major role as an innovative mechanism in order to strengthen the post-project sustainability factor for industrial and non-industrial facility development projects.

However, it is important and crucial that after the project cycle and during the post-project phase, the sustainable use of systems and processes can then be achieved by incorporating the facility management as a component in the design phase of the project for UN development organisations.

1.2.3 Can Facility Management become a tool of sustainability in international development projects?

When included in the project management and implemented as a key management tool such as finance, procurement, management, and marketing, yes. Similar to the

[17] Post-Completion Sustainability of Asian Development Bank-Assisted Projects, Chapter III, Analysis of sustainability ratings – Time lines of project completion and Performance Evaluation Reports; Page 9

integration of monitoring and evaluation at the early stages of the project to ensure the successful achievement of baseline targets, KPIs and project goals, FM can perform a similar function for the post-project completion phase. For instance, several projects by the GIZ adapt a monitoring mechanism such as "Devresults" to ensure that each activity and milestone in the project meets its targets on a timely manner. This leads to the successful achievement of the project's objectives when the project ends. On the other hand, FM can achieve the sustainability of the facilities supported through several tools such as cost and resource optimization to ensure that the facility continues its operations.

Figure 6 illustrates the difference between the traditional sustainable project approach for facilities and a circular economy one:

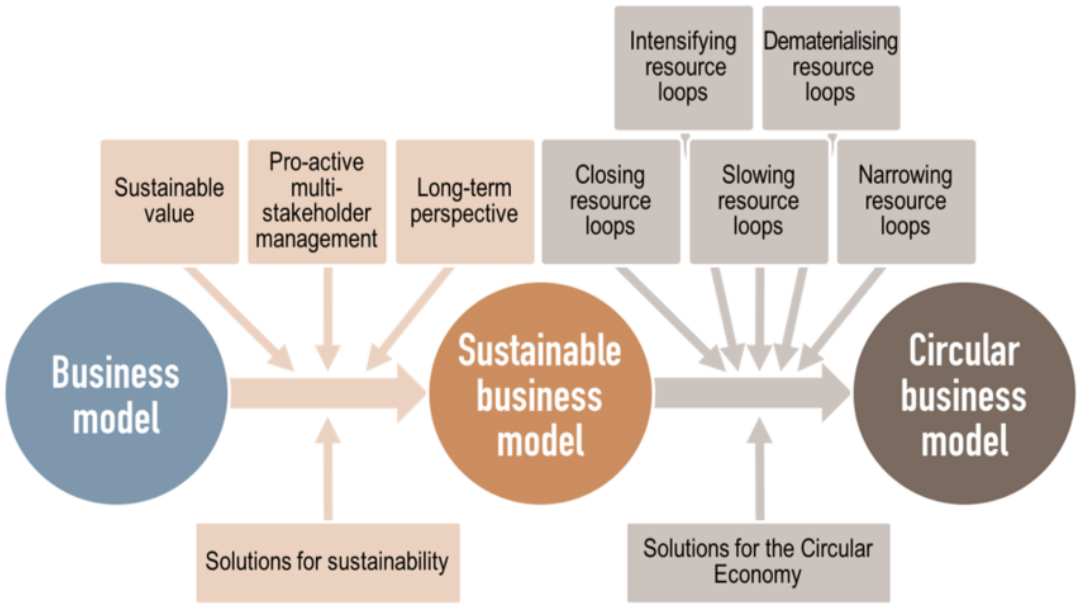

Figure 6 - Comparison of traditional sustainable and circular business models[18]

There are several steps which are crucial beforehand to assess where most suitable FM could be integrated in the project management mechanism for UN organizations.

[18] Martin Geissdoerfer (2018): Comparison of traditional, sustainable, and circular business models (https://www.researchgate.net/figure/Comparison-of-traditional-sustainable-and-circular-business-models_fig5_324617908

The first and foremost function of FM in the process is the sustainability function post-project completion. It serves that purpose. Chapter 3 of this paper, elaborates further on the processes and methods.

It is noted that there is a need to define FM within the scope of the facilities supported by UN development projects including and not limited to, conduct SWOT analysis, identify SOPs within the project management life cycle, draft tracking tools for FM roles and functions in achieving post-project completion sustainability including but not limited to: monitoring and post evaluation tracking mechanism, MEL and software such as “devresults”, and knowledge sharing platform of FM for targeted facilities to carry out the FM core functions in the post-project sustainability phase.

Further elaboration is provided in Chapter 5.

Chapter 2: Facility Management and International Development

2.1 Facility Management – definitions and roles

IFMA defines FM as "a multidisciplinary profession which ensures functionality, comfort, safety and efficiency of the built environment, through integration of people, places, processes and technology. This does not limit itself to types of facilities. Management of facilities (or facilities or FM) is an interdisciplinary space, infrastructure, staff and organisation, often associated with the administration of offices, arenas, schools, theaters of sport, convention centers, shopping centers, hospitals, hotels, shipyards and so forth. It is thus evident that FM is not restricted and rather fitting to several arenas.

FM represents a wider range of activities than just business services and these are referred to as non-core functions. They vary from one business sector to another. In a 2009 Global Job Task Analysis, the International Facility Management Association (IFMA) identified eleven core competencies of facility management; these are:

- communication; emergency preparedness and business continuity
- environmental stewardship and sustainability
- finance and business
- human factors
- leadership and strategy
- operations and maintenance
- project management; quality
- real estate and property management
- and technology

The definition provided in EN15221-1 by the European Standards Committee for Standardization (CEN) and ratified by 31 European Countries is the European standard for facility management as: "the integration of processes within an

organization to maintain and develop the agreed services which support and improve the effectiveness of its primary activities."

According to this European standard, the scope of FM is Space & Infrastructure (planning, design, workplace, construction, lease agreements, occupancy, maintenance, furniture, cleaning, etc.) and People & Organization (catering, ICT, HR, HS&S, accounting, marketing, hospitality, etc.).

According to the European Bank for Reconstruction and Development (EBRD), FM is often associated with the upkeep, maintenance, and operation of buildings such as office buildings, hospitals, schools, prisons, sporting complexes, convention centres, shopping complexes, hotels, etc. However, it is worth noting that FM is relevant and applicable across the full spectrum of infrastructure sectors including industry, transport, defence, water, and environment as mentioned in Chapter I.

Similar to other management components (administration, accounting, marketing, and procurement), FM is an evolving field. According to Mudrak, T., Wagenberg, A.V. and Wubben, E. (2004), FM is "subject to continuous innovation and development, under pressure to reduce costs and to add value to the core business of the public or private sector client organisation.

IFMA also stressed the rapidly growing FM industry and extending its roles to cover more responsibilities and skills. FM budgets and teams are growing and impacting with the environment being built as it integrates more into how modern society runs business, entertainment, and lifestyles.

Here are some social trends deeply rooted in facilities management and affected by them:

- "The Internet of Things" emerged
- Automation/Surveillance building

- Commitment of staff
- Health, Wellness and Well-being
- Development of IT infrastructure
- Evolvement of Real Estate Models
- The Environmental Impact and Sustainability

The above entails that FM is a cross-functional entity within the project management process thus positioning it to achieve sustainability through multiple functions. To ensure the latter, FM main functions are to:

- Create an environment that is optimal, safe, and economical
- Provide efficient services that are responsive
- Allow changes in space utilization and anticipate future needs for assets
- Ensure compliance with all applicable internal codes and regulations of the facility
- Creating competitive benefits for core business inter-departmental entities
- Improve the culture and image of the organization's goodwill

As FM controls many resources over a long time, it must be split into strategic FM and operational FM. The focus of Operational FM is on daily tactical problems. It resolves specific issues such as the location of persons or the type of equipment necessary to accommodate a specific situation. The question is answered by a Strategic FM: What facilities and space are required to support the strategic objectives? The first thing that matters is to conduct a detailed analysis of the existing facility, including location, capacity, use and condition. The organization can then identify the required requirements through a gap analysis method after the business plan is drawn up and a clear understanding of the assets and the capacities collected (See Lei Zhou, 2014).

As shown in Figure 7, FM is described as a process model. First it is necessary to define different process levels. This means defining who is responsible and in which

step the process is executed for planning, managing, implementing and control. The process planning should be based on the landscape of existing processes. It should include all parties involved:

- Customers to define the requirements and service levels (quality)
- Employees to optimize the FM processes (by using their experience and ideas)
- Executive managers to generate strategic plans
- Suppliers and external representatives to achieve an optimal reconciliation.

Any subprocesses from the above basic process model can be developed. These substrates can be analyzed separately, but during daily operations many of these sub-processes are simultaneous. An effective computer program to support management (CAFM) is required to organize many different processes.

It is not enough to understand the FM as the process model for a civil engineer, architect, or construction technician in order to take proper decisions in planning phases. Detailed knowledge is also needed on the core processes, services, and products.

Figure 7 illustrates the process of FM within the business hierarchy of any project and/or business:

The below subsection showcases a realistically tangible business case of an FM corporation contributing directly to achieve the UN SDGs. It is quite exemplary and interesting to witness efforts by a leading FM corporation assigning in it's annual strategy a plan toward achieving the UN SDGs; this fact alone corroborates the very fact of this thesis: FM can be an innovative mechanism for sustainability in international development projects. PPPs are an important mechanism and in partnership with the private sector, FM can achieve the objectives of the UN SDGs.

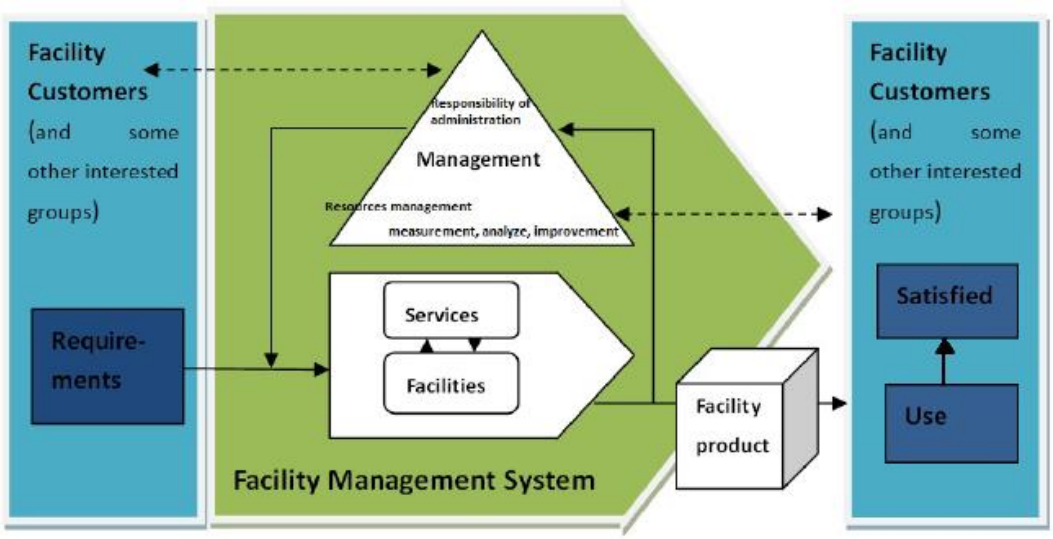

Figure 7 - Process model of FM[19]

2.1.1 FM in practice – CBRE case study

CBRE Group, Inc. is a U.S. business real estate and investment company. Coldwell Banker Richard Ellis has the abbreviation CBRE. It is the world's largest business real estate company. On Fortune 500 the company is 128th and has been included every year since 2008 in Fortune 500. Over 90 of the top 100 Fortune 100 companies are served by CBRE.

Similar to other mega-corporations across the globe, CBRE adapted a development through its CSR (Corporate Social Responsibility) to contribute to development efforts for better lives of people.

In CBRE CSR Report 2019, it focused on its contribution to the SDGs. Below Figure 8 illustrates how CBRE identified 10 out of the 17 SDGs for achieving their objectives.

[19] GEFMA (2004): GEFMA Draft Guideline: Introduction of Facility Management
https://www.facility-management.de/news/www.gefma.de_88706.html

Figure 8 -CBRE CSR towards the implementation of UN SDGs[20]

As illustrated in the above figure, this business approach encourages international development agencies to involve the private sector companies in delivering FM services to MSMEs without funding from the United Nations projects in post-project completion phases. Additionally, economic gains are reflected in long-term market dominance and profitability strategies through diversifying the activities of one's corporation or company.

CBRE's CSR success in this report, reiterates the importance of FM private sector participation in international development to achieve the SDGs.

[20] CBRE Corporate Responsibility (2020): CBRE 2019 Report https://www.cbre.com/-/media/files/corporate%20responsibility/cr%20report/2019/cbre_2019_cr_report.pdf?la=en

2.1.2 FM in private and public sector

In each organization, facility management is a function. The delivery of these operating services can be performed internally or can be outsourced, such as facility services and operational management tasks. Facility management includes the design and management of all support processes which do not form a direct part of the organization's core function (such as a training facility), and therefore do not form a direct part of the value-added processes of the organization (successful workshops on capacity building) but which indirectly or partly impact the effectiveness and efficiency of these added-value processes (resource optimization).

The fundamental functions in facility and property management are shown in Figure 9 below. In facility management, the characteristics of these functions may differ from an organization to another. These differences can be within the exact definition of tasks and functions and therefore lead to different responsibilities related to the respective positions. The main factors affecting these specific functional characteristics are the types of primary activities and the resulting division of core processes and support procedures. Moreover, the type of organizational operational form and the type of infrastructure that supports a central business also influence the characteristics of their respective FM positions in relation to decision-making competences and responsibility.

In relation to the primary activities, there is a distinction between space and infrastructure depending on the purpose of:

- companies where the area and infrastructure are used to support primary processes and intentional profit-making on site or with the assistance of infrastructure
- Properties that are commercially responsible for areas and infrastructures and are pursued by space as a profit intention. (see Figure 10).

Figure 9 - Cascading function FM[21]

Only companies can identify one feature of FM responsibility. For example, the tenant is the owner of the main business in property-related organisations, and thus takes on the role of the company. In this case, the real estate company does not

[21] RealFM e.V., SVIT FM und FMA (2016): Functions And Performance Model Within Facility Management, 2nd edition, Working committee "Certification", Berlin https://www.fma.or.at/fileadmin/uploads/FMA/dokumente/fachliteratur/20170119_FuLM_Eng_DS_final.pdf

secure the corporate supportive processes, but just allows the space management processes.

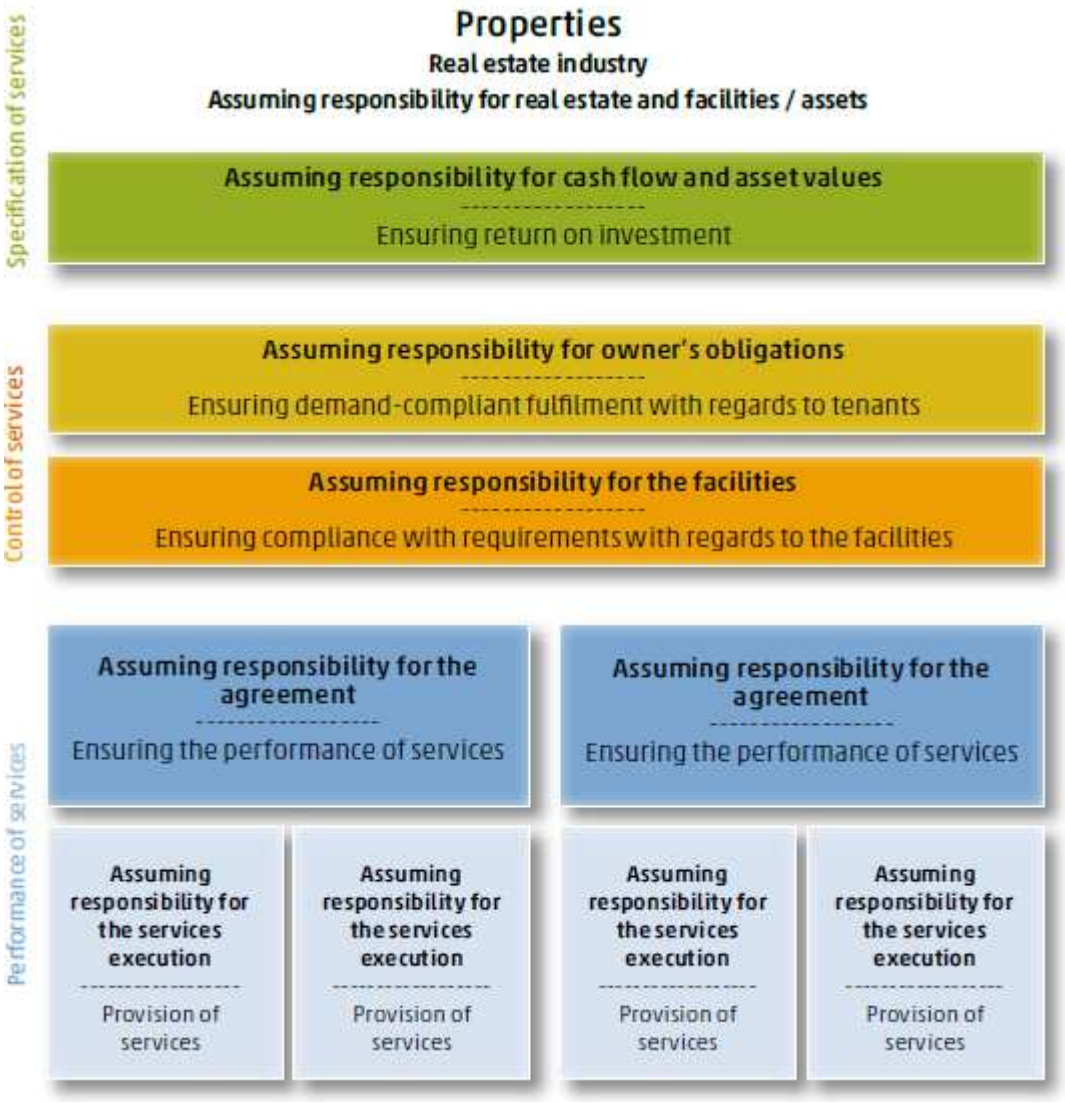

Figure 10 - Cascading functions of FM in REM[22]

Four hierarchical cascade management levels and one operational level reflect the functions of the support sector. All the services from demand definition to

[22] RealFM e.V., SVIT FM und FMA (2016): Functions And Performance Model Within Facility Management, 2nd edition, Working committee "Certification", Berlin https://www.fma.or.at/fileadmin/uploads/FMA/dokumente/fachliteratur/20170119_FuLM_Eng_DS_final.pdf

operational service provision are controlled by the management level. This is based on DIN EN 15221 which outlines the underlying processes.

At the strategic level, demand definitions are used to set the standards or guidelines and to ensure that all supporting resources have been available. Tactically all systems are equally guaranteed and supported for each specific facility in the operating level by special core business-compliant needs and infrastructures-compliant requirements. On the basis of service level agreements, the fourth management level ensures the quality of a defined service delivery.

As illustrated in Figure 10, specific management terminology is utilized for separating functions at four levels of management. The established terms of management of the Real Estate Management are assigned in the right part of the diagram as shown in Figure 11. Then this goes against the levels of hierarchy in the corporate world.

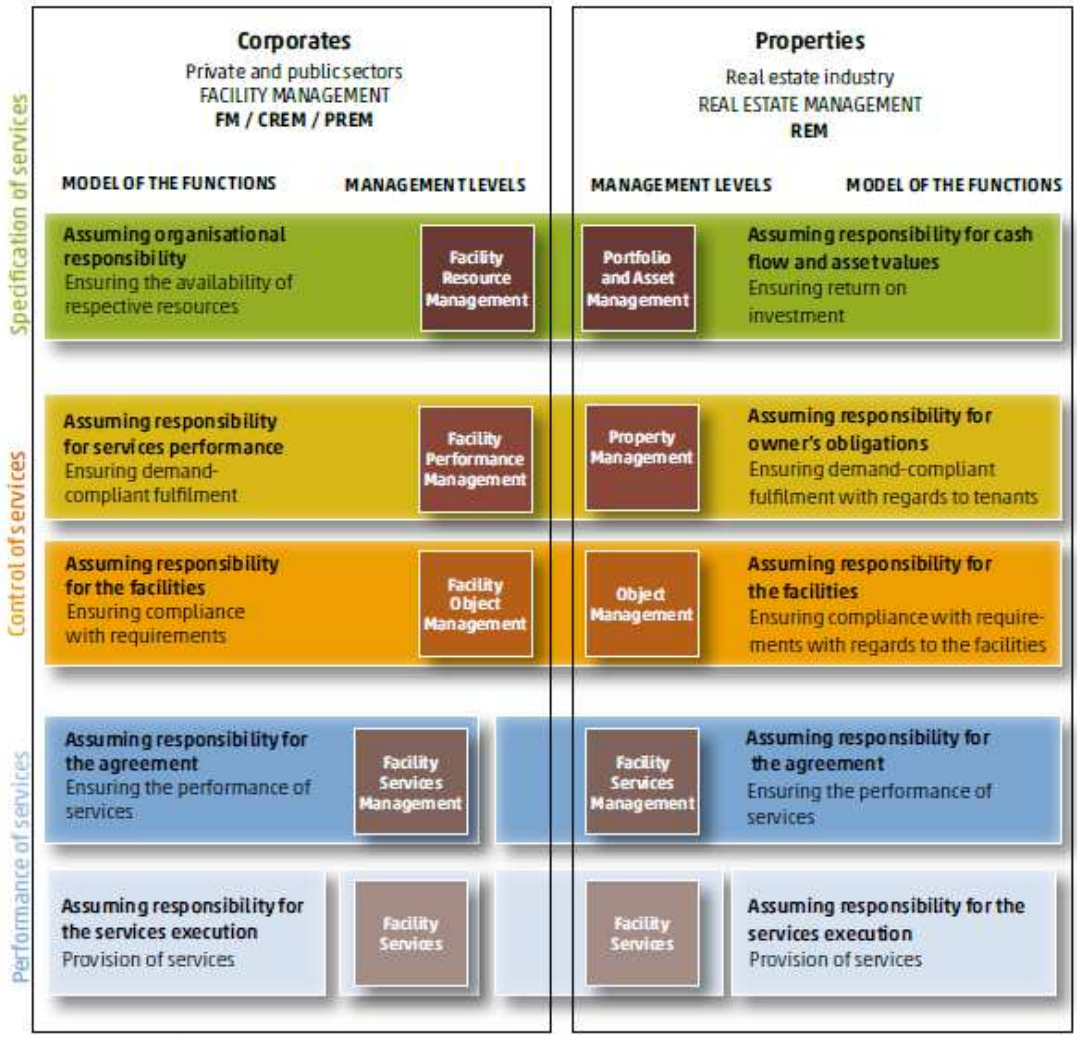

Figure 11 - Comparison of cascading management levels[23]

The following figure and preceding ones, corroborates the different levels of management within FM.

To ensure sustainability with FM in a business or projects, the following tools are recommended:

[23] RealFM e.V., SVIT FM und FMA (2016): Functions And Performance Model Within Facility Management, 2nd edition, Working committee "Certification", Berlin https://www.fma.or.at/fileadmin/uploads/FMA/dokumente/fachliteratur/20170119_FuLM_Eng_DS_final.pdf

Facility Resource Management (FRM)

The Facility Resource Management has a core function in harmonizing the FM Strategy with the Core Business (CB) corporate objectives and drawing on the necessary support process performance requirements. Based on the quality and quantity of the defined performance requirements the necessary resources are made available. In particular, those resources including infrastructure, staff, materials, time and money (both in capital and cash); so-called production factors or value added factors. The primary focus of Facility Resource Management is to ensure the core business requirements for the enterprise or production cycle based on the core business product.

Therefore, the functional areas can be described as:

- Core business and demand implementation agreements ordered: Service Level Agreements (SLM)
- Complete life-and-demand cycle liability for resources
- Application to standard and guidelines of realistic demands and requirements
- Consideration of the requirements resulting from infrastructure existence
- Resource provision (persons, infrastructure, equipment, time, money)
- Adaptation to the CB cycles of the respective resource strategy
- Focal Point: Core Business Organization corporate and production cycle

Facility Performance Management (FPM)

The Facility's key function is to control the performance requirements of the core business through all installations and to control the performance according to requirements in accordance with legislation, standards, and guidelines. Facility Performance Management focuses mainly on ensuring that facilities and service requirements are met within a demand cycle, in order to meet changes to basic parameters and needs and to allocate resources to facilities and services from the perspective of the core enterprise of the customer.

Therefore, the functional field of facility management can be described as follows:

- Easy-to-complete monitoring of defined demand implementation plan
- Requirements, norms, and directives
- Responsibility for service provision according to demands of customers
- Synchronization with use and ownership strategy of value development
- Focal point: Core business demand cycles

Facility Object Management (FOM)

The key role of Facility Object Management is to provide a cost-effective system operation at an appropriate quality level and to fulfill the requirements within the life cycle of the facility, beginning with the handover and continuous economic operation of the facilities and adapting the services according to the needs thus the functional field of Facility Object Management can be described as:

- Overall responsibility for the operation of the facility (objects, parcels, building facilities and technical facilities) with an appropriate quality of good economic value
- All liabilities arising from the liability of the operator and also from the assumption of good economic value
- Focal point: facility life cycle (objects)

Facility Services Management (FSM)

Facility Services Management's main task is to conduct and assume responsibility for special operational activities - usually separate or in some cases, comprehensive business activities. The focus is to provide services or packages in full and compliant fashion and to perform the operational duties related to services within a specific contract cycle. Therefore, the functional field of Facility Services Management is as follows:

- Operational management and responsibility in the facility
- Ensure specific businesses and services applicable for all businesses

- Focal point: complying with requests in the context of the contract cycle obligations

All these instruments can be used to measure Post-Project Sustainability as monitoring and evaluation tools. These tools are developed according to the basic goals and KPIs of the project when incorporated during the design phase. At the implementation stage, these tools develop data collection, analysis, and statistical tracking mechanisms. Project managers or partners are to be assisted in determining the sustainability strategy for the project in advance during the post-project phase.

Some of them may represent interfaces to the market. This means that the services between market participants in contractual levels are characterized by the tendering processes. Also, between service partners in the same company; these interfaces may exist. The decision on the internally delivered services and the outsourced ones is taken in view of their closeness to the core business or their impact on the success of the core business.

Consequently, it can be said that FM can be used in the public and private sectors; either through PPPs or stand alone sectors, the takeaway message remains unchanged: FM is a managerial tool that can be utilized at a Macro level (public institutions), Meso (Private sector corporations) and Micro (MSMEs).

2.2 UN International Development projects – areas for FM

2.2.1 FM contribution to SDGs – ISO 41011:2017

The ISO is an independent non-governmental global federation of more than 160 National Standard Bodies (ISO members). Work is normally carried out via ISO technical committees to prepare International Standards (IS). Every member organization interested in a topic which has been set up by a technical committee has the rights to be represented in the committee. International, public, and non-governmental organizations also participate in the work, in conjunction with ISO. In

all electrotechnical standardization matters, ISO collaborates closely with the International Electrotechnical Commission (IEC).

In 2017, ISO 41011:2017 by the technical committee ISO/TC 267, published Facility Management.

The International Facility Management Standards (FM, ISO/ TC 267) are intended for use in both the public and private sector, describing the characteristics of facility management. Interchangeable is the word “facility administration” and “facilities management.” This is an important milestone which deserves unique recognition simply because this international standard allows FM to expand in its purpose and enter areas as a pillar of core managerial functions instead of an ad-hoc support. For instance, international development agencies such as GIZ would certainly look into FM, ISO/TC 267 when implementing a project in upgrading facilities with international standards.

International cooperation in the preparation of these international standards has identified and helped implement common practices in a wide variety of market sectors, organizational types, processes, and regions to:

- Enhance quality, productivity, and economic performance
- Improve sustainability and reduce adverse impacts on the environment
- Developing working environments that are functional and encouraging
- Maintain compliance with regulations and safe working environments
- Improve performance and costs of the project life cycle
- Improve strength and pertinence
- More successful outreach via communication and media strategy

Not only did ISO recognize FM as a pillar in management and quality administration, but it also identified the SDGs FM contributes to:

Such clarity corroborates the approach suggested in Chapter I that FM has a key a role not only in achieving SDGs relevant to facilities (industrial and non-industrial)

but also a sustainability tool positioned through its functions and roles to assist facilities to achieve business continuity and durability.

The fact that ISO's technical committee linked FM to 10 SDGs out of the total 17 SDGs indicates that the role of FM needs to be positioned within a project/intervention to achieve progress on the SDGs. For example, as this thesis argues, FM is aligned with SDG9: Industry, Innovation, and Infrastructure – UN projects focusing around non-industrial and industrial facilities are a target goal for FM intervention to contribute with objectives and goals to achieve the SDGs in a country.

FM is directly interlinked with the SDGs – it has been recognized with the public sector, private sector, and international standards to be part of development efforts and sustainability in the efforts to achieve such.

Chapter 3: How FM can be incorporated as a pillar to sustainability in international development projects focused on facilities

3.1 Unifying efforts and developing mutual goals

FM and International Development communities have an opportunity to join efforts towards unifying their visions to achieve the SDGs.

As seen in Chapters I and II, FM serves as s tool for sustainability in different sectors and for different purposes through its set of diversified functions. As long as the role of FM can be identified by the international development industry, the latter have several mechanisms where FM can be integrated or play a key role in their efforts of development projects to achieve the SDGs.

As argued in this thesis, FM can be seen most suitable at the Post-Project Sustainability phase. Such a specifically identified role paves the path for FM to initiate efforts towards tangible, measurable milestones with the international development.

It is thus though the below mechanisms that FM can begin initiating contact with the international development:

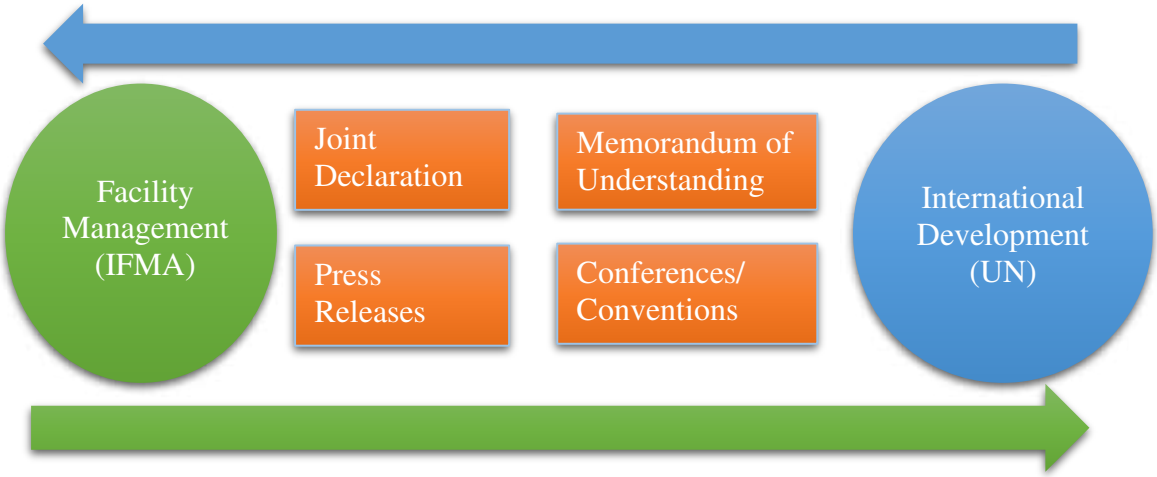

Figure 12 - FM and International Development unifying efforts through current mechanisms

- An MOU is a document that describes the broad outlines of an understanding that has been concluded by two or more parties. All parties participating in the negotiation communicate the mutually accepted expectancy of the MOUs. The MOU signals that a binding contract is imminent although not legally binding.
- Joint Declarations are declarations on a unified objective, vision, and approach issued by two or more organizations.
- A press release is an official statement sent to members of the news media for information purposes, an official statement or to make an announcement.
- Conference/Conventions are a gathering of people who meet at a fixed time to discuss or participate in a common interest.

Through these mechanisms, IFMA and ID entities can collaborate on a specific approach for FM to be incorporated in projects aimed for development of facilities or where facilities are involved.

The approach for any collaborative work or partnership agreements (through MoUs for example) need to have a clear scope of works. As argued in this thesis, the approach for any collaboration with FM shall be for its inclusion in an international development implementing agency project, with activities involving facilities for the Post-Project Sustainability phase. Nonetheless and to ensure the latter, FM needs to be actively present at the planning and implementation phase of the project. This allows FM experts and professionals to develop a comprehensive set of monitoring and evaluation tools aligning with the project's main objectives and goals instead of purely technical ones.

3.2 Inclusion of FM in International Development projects at the concept level

Incorporating FM in the Project Management Process (PMP) and Post Project Life Cycle (PPLC) is a necessary steppingstone towards total and complete inclusion of FM to achieve the Post-Project Sustainability Strategy (PPSS) and phase.

Figure 13 – refers to UNODC's PMP. As noted, three important phases are executed: Planning, Implementation, and Evaluation. The planning phase depends and considers the results of the evaluation of the previous completed project. This indicates the importance of evaluation at the end of the project as results versus the baseline targets are clear and have gone through SMART analysis.

Yet, the PMP of UNODC lacks the PPSS and phase which would strengthen the planning phase even further with SMART analysis showing the factors hindering sustainability for facilities amid the project's completion leading to the delay in achieving the SDGs by 2030 as shown previously with SDG 9 (See page 37, Figure 5 of this thesis).

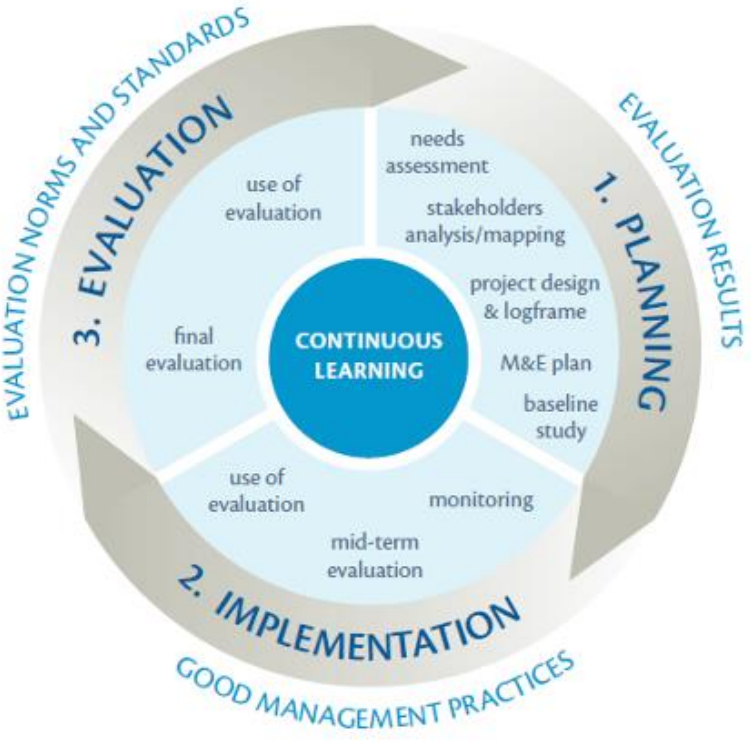

Figure 13 - UNODC PMP[24]

[24] United Nations Office on Drugs and Crime (2020): Evaluation in the Project/Programme Cycle https://www.unodc.org/unodc/en/evaluation/evaluation-and-the-project-programme-cycle.html

Therefore, when incorporating FM in UNODC's PMP, an additional phase will be added and introduced at the first phase: planning.

In Figure 14 below, PPS phase and FM are incorporated to reflect the value addition of FM and its tools in PMP for UN development projects.

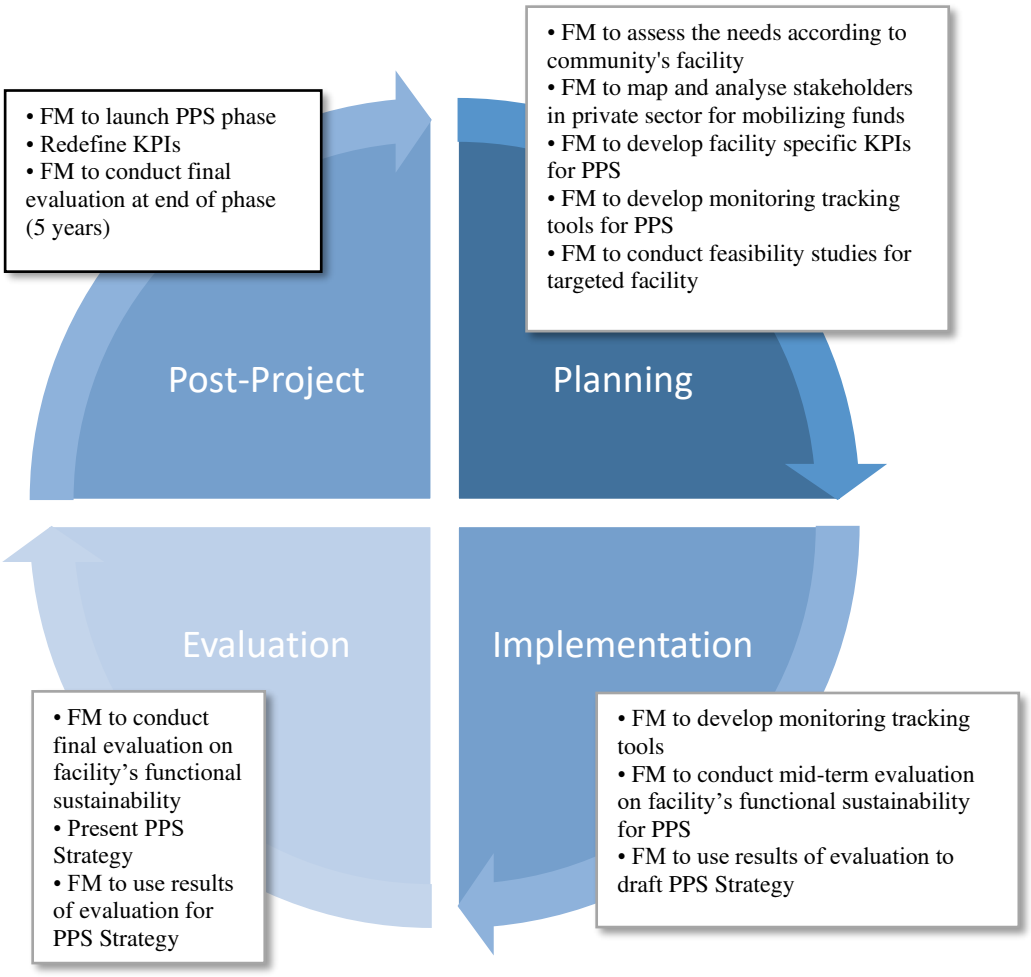

Figure 14 - PMP with FM as pillar

As shown in the above figure, FM's involvement and contribution at the early stages of the project, allows FM experts and professionals to develop the PPSS in an integrated approach involving all stakeholders and partners.

3.3 Presence of FM knowledge at:

3.3.1 Global level

With the existence of international bodies and standards recognising FM as an innovative force and mechanism to achieve the SDGs (such as IFMA and ISO), any direct involvement of FM in an ongoing project or programme by the UN or similar agencies serves a narrow path in development efforts. Hence, to incorporate FM as a pillar or tool for sustainability in international development projects, FM needs to be introduced at the Macro level: Policy.

At the public policy level, working closely with policymakers and governmental institutions is essential as it paves the path for FM to be integrated as a business managerial idea, educational major at universities, vocational training material, feasibility and research study topics as well as creative business opportunities in the economy through the involvement of private sector.

Public policy's recognition of FM in the national development plans would consequently pave the way to partnerships with the international organizations as well as private sector and global investment opportunities. When governments recognize the importance of FM as a tool to achieve sustainability then international organizations would be encouraged to incorporate FM at PMP.

Existing policies of FM as stated in previous chapters, does not tackle international development per say rather sets a critical framework for sustainability which FM can be positioned within international development projects.

It is thus crucial that IFMA and ISO as well as governments who fund generously – such as Germany- international development efforts, work together on a policy for FM in international development project interventions and post-project phases.

3.3.2 Regional Level

At the regional level, there are many UN-led initiatives for Africa, Latin America, Asia, Middle East and North Africa, Europe, and Americas. For example, FAO has focused and integrated its work in the Region through three Regional Initiatives[25]. The initiatives respond to member states' priorities and have a demonstrable effect in a timely fashion, while meeting the strategic goals of the FAO. In Africa, a cross-sectoral and interdisciplinary review of regional issues has been developed in line with regional initiatives. They call for accelerated measures by the Member States to combat hunger (the 2025 Commitment to End Hunger for African countries); promote sustainable innovative practices and principles of production and post-production procedures; and enhance resilience between vulnerable farming communities and pastoralism;

These initiatives are politically driven and are specific to their goals. During and after implementation, all initiatives seek sustainability.

3.3.3 Local and national levels

FM must contribute directly to ongoing projects at local and national levels through the provision of FM PPSS and monitoring tools. FM will also have the opportunity to participate in workshops and the training of trainers (TOTs) to promote FM's managers' teachings in projects designed to improve or set up facilities.

Furthermore, this means that efforts must be planned and undertake efforts towards government ministries, institutions, and local NGOs. Whether IFMA or private sector organizations advancing it, FM would eventually play a major role in international development organisations-supported facility projects.

[25] FAO (2016): Regional Initiatives For Africa
http://www.fao.org/3/a-i5510e.pdf

Such progress can be made in order to incorporate FM in the PMP for PPSS phase by FM experts and professionals who present their approach and strategy to national policymakers, private sector organizations and UN organisations. This would create economic performance in the upstream and downstream sectors such as agricultural processors and consumers, to create jobs and ad hoc services in the field of FM.

3.4 Creation of FM opportunities in facility projects

By operating in PMPs for PPSS phases, FM can play a promising role in the creation of economic opportunities. FM's role in creating economic opportunities through income creation activity and facility production improvement is reflected in Figure 15 in the Macro, Meso and Micro levels.

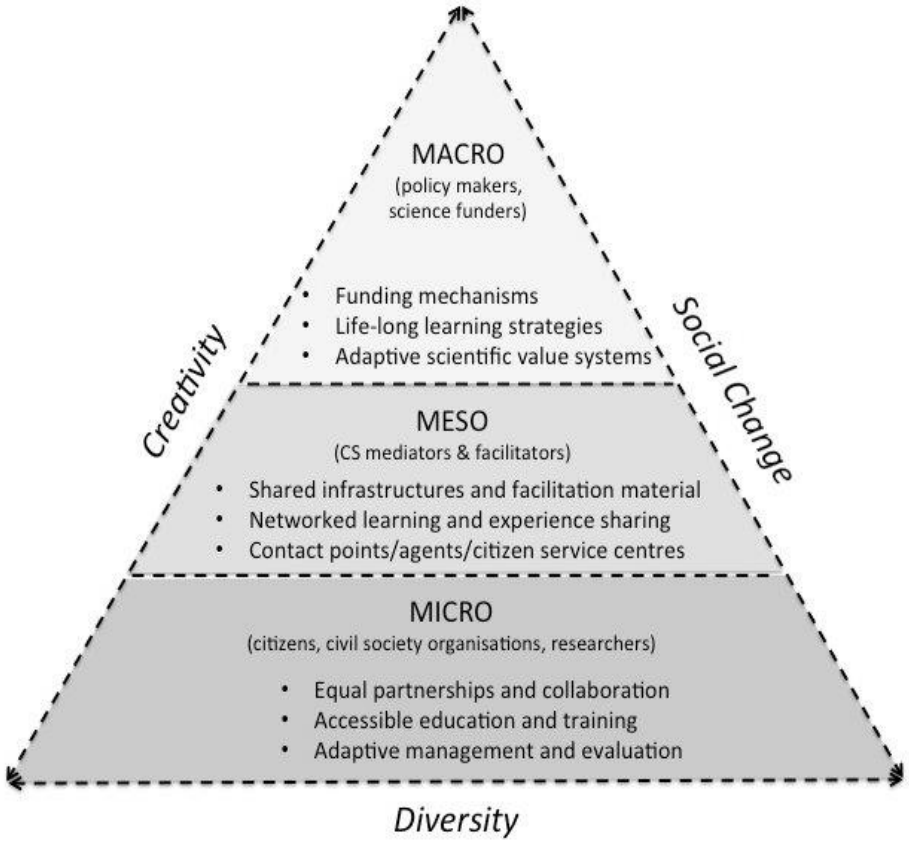

Figure 15 - FM as an economic opportunity[26]

[26] Teresa Schaefer / Barbaara Kieslinger (2016): Supporting emerging forms of citizen science: A plea for diversity, creativity and social innovation

The figure below captures briefly the opportunities created by FM's inclusion in ID projects. To advance FM's learnings at each level, mobilization of FM professionals and experts would immediately take place.

At the Macro level: it is envisaged that IFMA and other international FM associations would participate with developing a comprehensive policy toward FM's inclusion at the global, regional, and national levels of development. At each level, IFMA and similar associations would engage with different institutions but the results remain unchanged as the goal is aimed to set FM's incorporation in the development plan(s) to achieve the SDGs, based on and referenced to ISO accreditation and related certificates mentioned in this paper.

At the Meso level: FM needs to engage with academia, research centres, national and regional accrediting bodies, non-governmental organizations, media, and civil society. This allows FM to build synergies among stakeholders who could help advance FM agenda and policies to development plans.

At the Micro level: Participation and involvement with MSMEs, entrepreneurs, and small businesses allow the greater public to evidently witness FM results. These efforts by FM at this level allows people to view FM as a pillar to success for businesses and enhancement of living conditions.

In addition, it creates new opportunities for youth to work in a growing industry thus leading several youths to be passionate about FM as a industry and tool for development of better life conditions through economic activities and opportunities.

https://www.researchgate.net/publication/298791039_Supporting_emerging_forms_of_citizen_science_A_plea_for_diversity_creativity_and_social_innovation

3.4.1 Higher involvement in communication, dissemination of information, and visibility

It is evident that marketing and advertising are great tools to increase awareness and/or disseminate information. Therefore, it is important that FM results and involvement in development plans and/or projects, is both promoted massively and disseminated to local, regional, and global audiences.

The specific objectives of the FM Communication, Dissemination and Visibility Strategy are[27]:

- Visibility in the research community of the funded projects with FM, financing organisations, commercial stakeholders, policy makers and local stakeholders
- Timely and efficient communication to partners and external parties
- Identifying potential synergies and future collaborations, where possible, with other networks and programs
- Dynamic networking among partners funded projects
- Promoting stakeholder participation, sharing of knowledge and research outside FM programs

Based on the above, this is where Joint Declarations and Press Releases tend to have a great impact to massive audiences: it creates a breakthrough event. This would lead to change of perspectives among the public toward FM and its value as an industry and career option.

However, international efforts and global mechanisms are still needed to advance FM as tool in national plans and international development projects to achieve the SDGs.

[27] Vernooij, M. / Zisopoulos, F.K / Bunthof, C.J (2020): Communication and Dissemination Startegy of The Era-Net Cofund on Food Systems and Climate FOSC

3.5 International development projects: Regulation of FM by IFMA and ISO

3.5.1 Establishment of working groups

It would not be the first time that IFMA and ISO form working groups together to develop a new global standard. In 2017, ISO published three international standards for FM namely:

1. ISO 41011:2017, Facility management – Vocabulary
2. ISO 41012:2017, Facility management – Guidance on strategic sourcing and the development of agreements
3. ISO/TR 41013:2017 Facility management – Scope, key concepts, and benefits.

On behalf of the United States National Standards Institute (ANSI), IFMA served as an administrative body. The Technical Consultative Group (TAG) has been instrumental in the development of international FM standards since 2012. For IFMA, which has a global footprint and the landmark collaboration between IFMA and RICS launched in 2016, the benefit of worldwide unification in the FM industry is an important priority.

However, neither of these norms reflect FM roles and functions in projects for international development, which gives the two organizations several opportunities to develop one.

The ISO Technical Committee 267 for facility management is currently in the process of developing a management system standard with guidance notes and is further working on the ISO 41000 series for FM.

Therefore, it is important that these international bodies come together to develop a new standard series framework for FM in international development projects.

3.5.2 International Organizations (both UN and non-UN) and IFMA

Declaration of FM policy as a tool of sustainability in processing facilities for developing countries

When efforts succeed in achieving the publishing of FM regulation or standard for international development projects, then Member States and their governmental entities and different bodies would accelerate their interest to work with FM companies, universities, scholars and experts to ensure sustainability for supported facilities after the funding of international organizations has ended. It encourages several non-UN international development agencies to adapt FM as an innovative mechanism to achieve sustainability post-project completion phase.

The benefit of such approach also impacts Member States and their governments positively. It creates several job opportunities at the Macros, Meso and Micro levels, as explained in the preview chapter.

FM can be recognized as a pillar or tool for sustainability when IFMA, ISO and other international accrediting bodies come together to develop standards for FM in development supported projects, ensuring that sustainability is possible post-project completion.

Chapter 4: Applicable cases – Existing tools for sustainability

4.1 Illustration of UN projects with other tools for sustainability

An array of analytical tools have been developed by the United Nations Economic and Social Affairs Department, the UN Development Program and partners. They track the complex interactions of various dimensions of sustainability. Countries use these instruments to pursue key objectives, such as sustainable economic growth, addressing climate change and promoting social inclusion.

UNDESA and UNDP are using five quantitative modeling tools to help countries evaluate sustainable development policy options. For example, in Viet Nam UNDESA and UNDP organized a workshop to analyze sustainable energy policy scenarios. The participants used the CLEWs (climate, land use, energy and water systems) integrated framework. It is as follows:

- Models across the economy
- Microsimulations socioeconomic
- Models for energy systems
- Modeling of access for geo-space electrification

The tools use as much as possible open-source software and cutting-edge knowledge; the continuing development and improvement, supported by a global expert community, drive innovation and overcome innovation.

The models of CLEWs are tools to address food, energy, and water safety simultaneously. They are designed to assess how climate change can contribute to the environment by producing and using those resources and how climate change can affect the resource systems.

The models can identify pressure points and indicate synergies and compensation in order to reach development goals by comparing different technologies and value

chains. CLEWs can analyze political decisions on topics such as clean energy promotion, competitiveness in water and modernisation of agriculture.

Models across the economy are helpful in evaluating "what-if" scenarios, including a number of policies and shocks. They are able to shed light on the effects of policies and shocks on employment, output, national budgets, imports, and exports.

Examples of policies that have been model-assessed include increased investment in education and health, infrastructure investment, fuel or carbon tax introduction, and emissions cap regulations.

Understanding how families and individuals experience policy choices and possible shocks is key to ensuring inclusive benefits and that nobody is left behind. Microsimulations provide insights into, among other things, poverty alleviation policies, inequality reduction, improved food security, and increased access to energy. The technique has been applied to tax and subsidy policies, cash transfers, in-kind contributions, and increased access to modern energy, among other things.

For energy policy analysis or for medium- and long-term energy planning, energy systems models can be used. They can contribute to evaluating the interaction between technical and economic features and explore the impacts of technology decisions on energy security, accessibility and affordability and the environment.

Geographic data is used to determine the most cost efficient conventional and renewable energy technology to bring electricity to certain localities by Open Source Spatial Electrification Tool (OnSSET). It aims to identify ways of providing households that do not currently have access to safe, affordable, and reliable electricity. The model compares options such as electrical grid connections and mini-grid systems or standalone systems. This includes population density, road distance and road networks, the potential for renewables, fuel and estimated household electricity prices.

FM can play a key role in this area by regulating energy and optimizing costs. In ISS headquarters, FM department managed to deploy energy censors and devices to regulate automatically, energy and office climate upon the presence of employees thus leading to great cost efficiency and resource optimization.

It is critical to note that FM can consolidate plans which directly affect the operations within a facility through energy efficiency, location, workspace, maintenance, and sustainability for the greater good of the facility and its productivity.

Chapter 5: Conclusion

As noted in this thesis, FM can play a key role in international development projects for industrial facilities in a path leading to sustainability amid the project's completion.

Even though FM would create a debate, rather will be a fruitful one that would have hearing ears with interested policy makers, project implementing partners and beneficiaries. The question of achieving sustainability after the PLC is and will be a crucial milestone for any international organization and governments.

The question remains as to what extent are stakeholders willing to take this debate up the pyramid to policy makers or even begin with an example in one existing project. The benefits for FM's inclusion in international development PMP is cross matching in achieving the objectives and goals of the project.

As shown in this thesis, FM and international development are interlinked in several functions: planning, organizing, executing, and controlling. As a managerial function, its incorporation in PLC sets its importance to achieve the goals of the latter: FM ensures the sustainability of the project's goals and objectives after the project has been completed thus impacting the targeted location/people to achieve the SDGs. Particularly, international development goals include sustainability as a main pillar to achieve the goals of projects. FM through its certification from ISO sets it forward and pushes it upstream to achieve this goal.

However, as a mechanism and tool to achieve such goal, it is evident through this paper's research that FM is better situated in the post project phase. Not only does it achieve the goal of any internationally supported project, but also attains the impact of the intervention planned.

FM is a tool which incorporates the mechanism to achieve sustainability during and post completion of projects. It is hence of great importance that investments in the field of international development are increased and support for Macro, Meso and Micro levels is considered for FM professionals, scholars, and experts.

FM would then become an economic mechanism for job growth through local talent. And that would increase the value of FM in achieving the UN's SDGs.

The future holds vast opportunities for the FM industry and efforts toward expanding its value and functions need to be invested as the world is rapidly changing and will face many challenges.

Several assessments and studies need to be carried out to validate accurate findings as to how FM can be incorporated at the Macro, Meso, and Micro levels and what effects or learning points would be seen. Efforts need to be unified to examine how FM can be of a value addition to developing countries in achieving not only sustainability but also other elements of the SDGs till 2030.

As shown in the chapters of this paper, FM is an important tool to consider when thinking of the SDGs; it is quite impressive that FM leading companies in the privates sector such as CBRE are taking the conversation about the SDGs seriously and actually are going a mile ahead and by incorporating it in their CSR strategy.

Through this paper's research, it is believed that FM can be easily situated in projects focusing on facilities. It is a new field for ID and therefore efforts in creating awareness, working with policy makers, institutions and businesses need to take place simultaneously. For the record, several ID agencies hire FM experts for ad hoc advisory services and using it at a later stage and to assess and recommend.

If we take the example of Austria and its ADA (Austrian Development Agency), and since FM is recognized at Macro and Meso levels, FM could be further assessed as a tool for sustainability for PPSS creating effective promotion of it.

It is thus crucial more than ever, that forces in FM come together for a higher goal, one which will impact the industry and the developing world positively; creating jobs, expanding national institutions and academia to adopt FM learnings, encouraging private sector investors to invest, drive businesses to incorporate FM in their business models for sustainability and resource optimization.

This work is complicated but not impossible. FM and ID deserve an innovative tool/mechanism to ensure sustainability in projects that are focusing on prosperity for communities which are highly dependent on facilities.

As shown in several occasions in this paper, FM needs an integrated approach involving all stakeholders and players in the development scene. This approach will succeed and FM eventually will be recognized in ID projects for what it is: a sustainability tool to achieve the SDGs and long-term profitability for MSMEs.

Methodology used

Literature studies

In this Master's Thesis, Literature Review was used as a methodology to survey scholarly sources on this topic. In this Master's Thesis, an overview of current knowledge noted, allowing for relevant theories, practices, methods, and gaps in the existing research to be identified.

The goal of this literature review is to compare the interlinking approaches between the functions of FM and international development projects to achieve the UN SDGs in particular sustainability.

Information retrieval

Through webpages of organizations, companies and public institutions, information was retrieved and cited. In addition to reports and journals related to projects and post independent evaluation studies and assessments.

Case Studies

Several case studies were presented in this Master's thesis and cited when appropriate. The case studies serve as an evidence and proof for the research question of this thesis: Can FM become a tool for sustainability in international development projects?

Upon which, several independent evaluation assessments and studies were cited to prove that sustainability in post-project phases is an important and unexploited domain in the international development industry.

Bibliography

- Vernooij, M. / Zisopoulos, F.K / Bunthof, C.J (2020): Communication and Dissemination Startegy of The Era-Net Cofund on Food Systems and Climate FOSC
- Teresa Schäfer and Barbara Kieslinger (2016): Supporting Emerging Forms Of Citizen Science A Plea For Diversity, Creativity And Social Innovation. Journal of Science Communication, Vol. 15(02)(2016)Y02, pp. 6-13
- FAO (2016): Regional Initiatives For Africa
- RealFM e.V., SVIT FM und FMA (2016): Functions And Performance Model Within Facility Management, 2nd edition, Working committee "Certification", Berlin
- CBRE Corporate Responsibility (2020): CBRE 2019 Report
- Lei Zhou (2014): International Benchmarking In Facility Management - Comparison Of Different National Benchmarking Pools, Fakultät für Bauingenieurwissenschaften der Technischen Universität Graz, Austria
- Booty, Frank (2010). Facilities Management. Amsterdam: Elsevier. p. 295.
- J.S. Bayley (2010): Special Evaluation Study On Post-Completion Sustainability Of Asian Development Bank-Assisted Projects
- Suganya Hutaserani (2010): Special Evaluation Study On Post-Project Sustainability Of ADB
- Lila Kumar Khatiwada (2010): Implementing A Post-Project Sustainability Study (PSS) Of A Development Project - Lessons From Indonesia
- United Nations office in New York (2019): "The Sustainable Development Goals Report
- The Economist Intelligence Unit Limited (2019): The Critical Role Of Infrastructure For The Sustainable Development Goals
- Lessidrenska, T (2019) SMEs and SDGs: challenges and opportunities OECD Development Matters Blog.

- Department of Economic and Social Affairs of the United Nations Secretariat (2013): World Economic And Social Survey - Sustainable Development Challenges
- World Bank (2020): Regional Infrastructure Finance Facility Riff - Project Information Document
- World Health Organization (2019): Antimicrobial Stewardship Programmes In Health-Care Facilities In Low And Middle-Income Countries - A Who Practical Toolkit
- ITU (2018): Europe Regional Initiatives - Buenos Aires Action Plan 2018-2021
- Patrick Develtere / Ignace Pollet / Fredrick Wanyama (eds.) (2008): Cooperating Put Of Poverty - The Renaissance Of The African Cooperative Movement, International Labour Office – World Bank Institute
- Jacques de Graaf / Takashi Takahatake / Alexander Jones (2011): European Union Food Facility, Foundations For Future Action - An Initial Review Of Selected Projects
- Mathieu Verougstraete / Rolf Dauskardt / Abhaya K Agarwal (2016): Public-Private Partnerships For Sustainable Development In Asia And The Pacific, UNESCAP
- United Nations Economic Commission for Europe (2016): Promoting People First Public-Private Partnerships (PPPs) For The UN SDGS
- Jomo KS/ Anis Chowdhury/ Krishnan Sharma/ Daniel Platz (2016): Public-Private Partnerships and the 2030 Agenda for Sustainable Development: Fit for purpose?
- United Nations Industrial Development Organization (UNIDO) / United Nations Global Compact (2014): Engaging the Private Sector in the Post-2015 Agenda
- Petru Dumitriu (2017): The United Nations System - Private Sector Partnerships Arrangements In The Context Of The 2030 Agenda For Sustainable Development, Joint Inspection Unit, UN Geneva

- Jane Nelson (2008): Framework for Business Engagement with the United Nations, Global Compact Office, United Nations
- Department of Economic and Social Affairs (2019): High-Level Political Form On Sustainable Development – Handbook For The Preparation Of Voluntary National Reviews
- UN New York (2019): The United Nations System
- United Nations, New York (2019): Sustainable Development Goal 16: Focus On Public Institutions – World Public Sector Report
- Gomes, Leonard, (1990): Neoclassical International Economics: An Historical Survey, Palgrave MacMillan.
- Bezançon, Xavier (2004): "2000 ans d'histoire du partenariat public-prive. Pour la realisation des equipements et services collectifs", Paris, Presses de l'ENPC
- Mudrak, T. van Wagenberg, A. F., & Wubben, E. F. M. (2004): Assessing the innovative ability of FM teams: a review. Facilities, 22 (11/12)

Table of Figures

References

- FOA (2011): European Union Food Facility Foundations For Future Action An Initial Review Of Selected Projects - http://www.fao.org/fileadmin/user_upload/ISFP/EuFF_web.pdf - retrieved October 2, 2020
- ICOA Technical Cooperation (2020) - https://www.icao.int/secretariat/TechnicalCooperation/Pages/projectcategories.aspx - retrieved October 2, 2020
- IFAD (2018): https://www.ifad.org/documents/38714170/40691558/China_SSTC_facility.pdf/bd236a69-43e1-4c1d-9d7c-0540f221c94d - retrieved October 2, 2020
- Patrick Develtere, Ignace Pollet & Fredrick Wanyama (eds.) (2008) https://ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---coop/documents/publication/wcms_735490.pdf - retrieved October 2, 2020
- ITU (2019): Europe Regional Initiatives Buenos Aires Action Plan 2018-2021 https://www.itu.int/en/ITU-D/Documents/RI_Europe.pdf - retrieved October 2, 2020
- UNESCO (2020): Diversity of Cultural Expressions https://en.unesco.org/creativity/activities/strengthening-system-governance-culture - retrieved October 2, 2020
- World Tourism Organization (2020): A United Nations Specialized Agency https://www.unwto.org/our-focus - retrieved October 2, 2020
- World Health Organization (2019): Antimicrobial Stewardship Programmes In Health-Care Facilities in Low – and Middle-Income Countries A Who Practical Toolkit https://apps.who.int/iris/bitstream/handle/10665/329404/9789241515481-eng.pdf?sequence=1&isAllowed=y - retrieved October 2, 2020
- World Intellectual Property Organization (2020) - https://www.wipo.int/academy/en/- retrieved October 8, 2020

- Global Hydrometry Support Facility (2020): What can we do to build a sustainable foundation for evidence-based policy, decision-making and conflict resolution in water resources management? https://ane4bf-datap1.s3-eu-west-1.amazonaws.com/wmocms/s3fs-public/ckeditor/files/HydroHub_FactSheet_201701.pdf?sGJpdpU683CKtkfkLj6jl94qS_tEsswa - retrieved October 8, 2020
- The World Bank (2020): Regional Infrastructure Finance Facility (RIFF) Project https://projects.worldbank.org/en/projects-operations/project-detail/P171967 - retrieved October 8, 2020
- United Nations, New York (2019): The Sustainable Development Goals Report https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf - retrieved October 14, 2020
- United Nations Department of Economic and Social Affairs (2020): UN/DESA Policy Brief #66: COVID-19 and the least developed countries https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-66-covid-19-and-the-least-developed-countries/ - retrieved October 16, 2020
- Post-Completion Sustainability of Asian Development Bank-Assisted Projects, Chapter III, Analysis of sustainability ratings – Time lines of project completion and Performance Evaluation Reports; Page 9
- Martin Geissdoerfer (2018): Comparison of traditional, sustainable, and circular business models (https://www.researchgate.net/figure/Comparison-of-traditional-sustainable-and-circular-business-models_fig5_324617908 - retrieved October 17, 2020
- GEFMA (2004): GEFMA Draft Guideline: Introduction of Facility Management https://www.facilitymanagement.de/news/www.gefma.de_88706.html - retrieved November 22,2020

- CBRE Corporate Responsibility (2020): CBRE 2019 Report https://www.cbre.com/-/media/files/corporate%20responsibility/cr%20report/2019/cbre_2019_cr_report.pdf?la=en - retrieved October 21, 2020
- RealFM e.V., SVIT FM und FMA (2016): Functions And Performance Model Within Facility Management, 2nd edition, Working committee "Certification", Berlin https://www.fma.or.at/fileadmin/uploads/FMA/dokumente/fachliteratur/20170119_FuLM_Eng_DS_final.pdf - retrieved October 22, 2020
- United Nations Office on Drugs and Crime (2020): Evaluation in the Project/Programme Cycle https://www.unodc.org/unodc/en/evaluation/evaluation-and-the-project-programme-cycle.html - retrieved October 22, 2020
- FAO (2016): Regional Initiatives For Africa http://www.fao.org/3/a-i5510e.pdf - retrieved October 23, 2020
- Teresa Schaefer / Barbaara Kieslinger (2016): Supporting emerging forms of citizen science: A plea for diversity, creativity and social innovation https://www.researchgate.net/publication/298791039_Supporting_emerging_forms_of_citizen_science_A_plea_for_diversity_creativity_and_social_innovation - retrieved October 23, 2020