DRAFT

PROPOSAL FOR AN EVALUATION METHODOLOGY FOR 'PEOPLE-FIRST'
PUBLIC-PRIVATE PARTNERSHIPS
Specialist Centre on PPP in Smart & Sustainable Cities
April 2018.

1. Introduction

In September 2015 the 2030 Agenda for Sustainable Development was approved by the United Nations General Assembly. The main component is a set of 17 Sustainable Development Goals (SDGs) and 169 Targets to be accomplished by 2030. Among other objectives, increasing the access to public services to all is considered fundamental to improve quality of life and to achieve sustainable development.

Nevertheless, estimates from the Organization for Economic Co-operation and Development (OECD), the Boston Consulting Group and the World Bank Group report an annual global infrastructure investment need of about US$3.7 trillion of which only about $2.7 trillion is currently met on an annual basis, leaving an estimated infrastructure funding gap of 1 trillion dollars per year[1]. This gap represents about 768 million people worldwide without access to clean water, 2.5 billion without adequate sanitation, 2.8 billion people that still cook their food with solid fuels, one billion people that live at more than two kilometers from an all-weather road and twenty percent of the world population without access to electricity[2] (World Economic Forum).

This gap of 1 trillion dollars per year can be filled with the help of the private sector. In fact, according to the World Bank data[1], more than 1470 public-private partnerships started between 2001 and 2014. Jointly, the projects implied a total investment of

---

[1] According to a report from McKinsey Global Institute the gap is of 800 billion.
[2] https://www.weforum.org/agenda/2016/06/the-world-has-an-800bn-annual-infrastructure-gap-heres-how-to-close-it

around 16,305 million dollars in several areas, including education, agriculture and food security, economic growth, health, and, environment, among others.

In this context, the activity of the UNECE PPP programme, with the complementary activities of the affiliated International Centres of Excellence, and all the experts involved in the work of the UNECE Working Party on PPP, concur that public-private partnerships (PPPs) are a powerful vehicle to achieve the SDGs (UNECE, 2016). This led to establish in 2016 a set of criteria that PPPs must fulfil to meet the SDGs. These criteria are called 'People First' PPPs.

In particular, to be considered as 'People First', the projects need to fulfil the following conditions:

Condition 1. Increase access of essential services to people, especially to the socially and economically vulnerable; furthermore, people-first PPPs should promote social justice and make essential services accessible without restriction on any ground;

Condition 2. Developing a resilient infrastructure and improving environmental sustainability, cutting Co2 emissions and fostering green growth;

Condition 3. Demonstrating project economic effectiveness, projects must be successful, achieve value for money and have a measurable impact by removing a barrier or creating new means for integrating groups into the global market place;

Condition 4. Be replicable and scalable so that they can be scaled up and achieve the transformational impact required by the 2030 Agenda;

Condition 5. Engaging all the stakeholders that are either directly involved in the PPP project or directly or indirectly affected in the short and /or long run.

There is a vast literature analyzing public interest services impact from different angles related to SDGs. For example, and among others, one set of articles analyze the effects of transport infrastructure on growth and development (Démurger, 2001; Boopen, 2006; Lakshmanan, 2011; Farhadi, 2015). A second one, the wider impacts of

rails and roads (Banister and Thurstain-Goodwin, 2011; Knowles and Ferbrache, 2016; Holl, 2004; Jiwattanakulpaisarn et al., 2009; Duranton and Turner, 2012). A third one, the environmental impacts in the water sector (Lundin et al. 2004; Larsen et al. 2007; Lassaux et al. 2007; Hospido et al. 2012). A fourth, the economic impact of educational institutions (Blackwell et al., 2002; Siegfried et al., 2007).

Moreover, there are Cost-Benefit analysis in almost every service of public interest, such as water (Hutton et al., 2007); rails (de Rus and Inglada, 1997); educational centers (Reynolds et al., 2002); or, power generation (Diakoulaki and Karangelis, 2007).

Related to the public-private partnerships, some academic studies have analyzed the contribution of PPPs to sustainability related objectives mainly through the case study analysis approach (see Chaurey et al., 2012; Dellas, 2011; Mouraviev and Kakabadse, 2014; and, Szulecki et al., 2011, among others). However, to date none of these investigations adopts a holistic approach to sustainability assessment (Pinz, et *al.*, 2018).

Among others, some of the methodologies used in the assessment of the effects of a project or product include the Cost-Benefit Analysis, the Economic Impact Assessment, Environmental Life Cycle Assessment, and, Computable General Equilibrium models.[3]

---

[3] Cost-Benefit analysis (CBA) is the systematic and analytical process of comparing benefits and costs in evaluating the desirability of a project–often of a social nature. It is generally used to government decision making (Quah and Haldane, 2007). Economic impact assessment (EIA) is a technique that calculate the effects of a project on the level of economic activity in a given area through the (1) direct, (2) indirect and (3) induced effects. These effects are calculated by using Leontief input-output tables. Environmental Life Cycle Assessment (LCA) addresses the environmental aspects and potential environmental impacts of a product throughout a product's life cycle from raw material acquisition through production, use, end-of-life treatment, recycling and final disposal (ISO 14040.2). Computable General Equilibrium models (CGE) are used to estimate how an economy might react to changes in policy, technology or other factors. This technique ultimately consists of modelling the whole economy, including resource constraints. In so doing, CGE models address the two disadvantages of the traditional EIA: first, it acknowledges that resources dedicated to an investment project are not exogenous but come at the expense of an alternative use of resources; second, they address price changes (European Investment Bank).
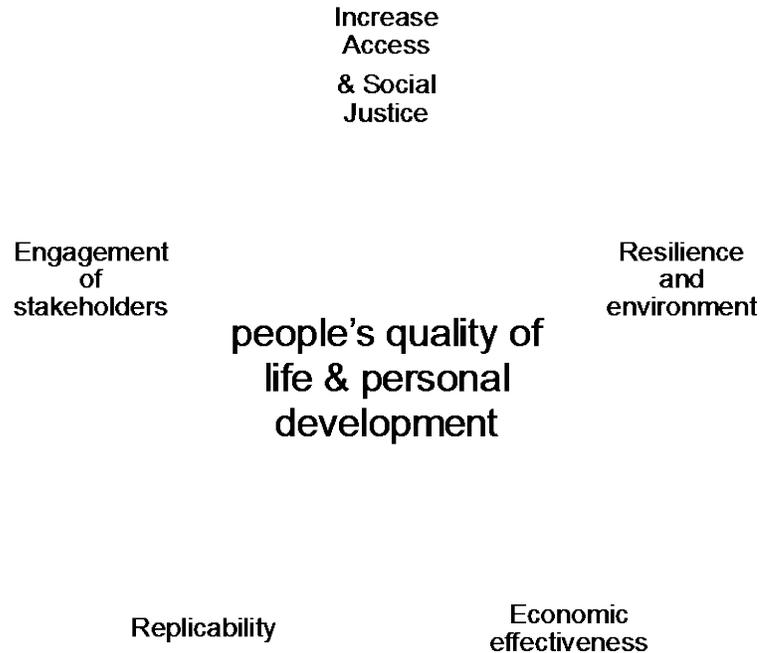
Taking into account all the advances in knowledge made so far, the present project intends to create a methodological tool to asses in which way a PPP contributes to the integral development of the territory from and economic, social and environmental perspectives and how particularly to the SDGs. The fundamental idea is, therefore, to create a methodological tool to identify when a PPP is 'People First'.

2. Proposal

In order to be declared as 'People First', PPPs must satisfy a set of criteria defined by the UNECE (see Introduction). The present challenge consists in concentrating in an easily tractable tool different measures of economic, environmental and social impacts of the different projects that let us evaluate which kinds of projects can be considered to put people first, and therefore contributes more to a sustainable and inclusive development.

A holistic assessment of the PPP project is proposed, with people in the center. Hence, we propose to evaluate the contribution of the project to the five conditions established by UNECE. Following, there is a brief explanation of each dimension, the score calculation, and, the sensitivity analysis proposed. The result of this quintuple assessment should determine the impact of PPPs in people's quality of life and personal development.

Graph 1. Public-private partnerships holistic assessment

Increase
Access
& Social
Justice

Engagement
of
stakeholders

Resilience
and
environment

people's quality of
life & personal
development

Replicability

Economic
effectiveness

2.1. The dimensions of the Score

Increasing access and social justice (Condition 1)

The first dimension under evaluation is whether the project fulfills condition 1. This is, in which degree it helps providing universal access to essential services, such as water and sanitation or energy; or to public interest services like education and health, among others, in a non-restrictive way on the grounds of religion, race or gender. Moreover, this social assessment will also include two additional equity considerations.

In first place, it will assess whether if this access benefits the more socially and economically vulnerable population. In second place, and considering that the provision of state funded care services represent the most transformative advances in women equality (Conley and Page, 2014), the analysis will evaluate if the project contributes to gender equality.

For every type of project, it social impact will be calculated respect to previous situation of the people affected by the PPP project (city/ region/ country population).

Resilience and environment (Condition 2)

In this dimension will be evaluated first in which degree the project helps developing resilient infrastructure. In second place, will be assess the environmental impact of the project. Respect to this assessment, a distinction must be made regarding global and local impacts. Of global interest, it will be assessed in which measure the projects help reversing climate change through the reduction of CO_2 emissions. At local level, it will be assessed the contribution to the reduction of the particles PM10 and PM2.5, and Nitrogen Dioxide, also harmful for human health.

Economic effectiveness (Condition 3)

This dimension of people-first PPPs can be disaggregated in two different parts. On one hand, will be assessed in which degree the PPP contributes to the value for money. On other hand, the evaluation will also observe the economic impact of the project in terms of its contribution to a sustainable development.

Regarding the first item, several characteristics of the design of the contract influence the degree of **economic effectiveness** of the partnership and contribute to the value for money. Thus, we find important to include the assessment of these characteristics as a first step to achieve an integral evaluation. Within these, we include:

1. Procurement methods and bidding process: The selection of the tender procedure and the award criteria plays a key role in competition, cost and technical conditions in which the APP will be carried out (Yescombe, 2007). Furthermore, it is essential to improve the productivity of existing assets and make savings. In this context, the general framework in which different procedures are defined for public procurement is determined by an agreement administered by the Organization World Trade Organization (WTO) of 1974 (amended 1994). Most used procedures in PPPs are: open procedure; restricted procedure; negotiated procedure; competitive dialogue; and, unsolicited proposals or private initiative.

Apart from the unsolicited proposals, we can aggregate on the one hand, the procedures based on the offer (open or restricted), in which the bidders are fundamentally proposing a price with little or no contractual negotiation with the public authority after the offer has taken place and, on the other hand, the procedures based on the preferred bidder (negotiated or competitive dialogues), in which there is negotiation (Berrone et al., 2018). Each of this type of contract efficiency depends on the institutional framework of the involved country[4].

2. Risk allocation: The optimal distribution of risk in PPPs requires considering both the incentives created by the contractual relationship as the ability to control risks incurred by the different parties (Grimsey and Lewis, 2004). To some extent, the risks and the incentives are grouped according to the standard theory of the principal-agent. For this reason, it is essential that risks are distributed in accordance with the ability of each party (principal-agent) to control the uncertainty, with the ultimate goal to maximize efficiency. The optimal distribution of risk is based on achieving the best combination of

---

[4] The offer-based approach provides a relatively procedure fast and, therefore, potentially of lower cost to the bidders. It is considered preferable in countries where there is concern that any type of of renegotiation is linked to possible corrupt behavior. On the contrary, the procedure based on the best bidder may allow better define the needs of the procuring entity and increase competitive tension during the negotiation, although it does much more time and a well-prepared counterpart from the public side is necessary.

incentives and risk assurance: provide incentives in areas controlled by the sector private and insurance in the other areas (Berrone et al., 2018).

3. Finance and payment methods: A key aspect that the contract must specify is the mechanism by which the private operator will be remunerated. The payment mechanism has a fundamental impact on the magnitude of transaction costs associated with monitoring the terms of the contract, in the incentives related to the reduction of costs and the maintenance of the quality of the service, in the effective distribution of risks between the public authority and the operator private (Berrone et al., 2018). Furthermore, the finance and payment methods do not only affects the efficiency with which funds are used, but also could influence whether the project increase access to essential services without restriction on any grounds, or not, and in which degree promotes equity.

4. Governance and institutions: It is widely recognized by professionals and academic experts alike that institutional quality is a key factor of overall economic success and good performance of PPP projects in particular. The proper functioning of the rule of the law and respect for property rights are prerequisites for an economy healthy, but many developing societies also present opportunities for PPPs in contexts in which the general institutional quality is far from perfect. The quality of the institutions and organizations involved in the different stages of a PPP is important because PPP contracts are necessarily incomplete, that is, can not foresee all possible future contingencies, although it is desirable that possible to reduce to the maximum the incompleteness of the initial contracts (Berrone et al., 2018).

In every case, the Governance structure must guarantee zero tolerance to corruption. The UNECE Standard on Zero tolerance to corruption in PPPs, approved in November 2017, will be a good framework to start settling an evaluation of the grade of tolerance to corruption.

5. Performance: The performance affect directly the effectiveness of the project and depends on the proper design of the contract and selection of stakeholders. If dimensions 1 to 4 of the contract are well designed, we can expect the project to be delivered on time to fulfill its objective. Thus, adding this last head, will let us evaluate whether the project can be categorized as effective or not.

In second place, as stated above, Moreover, this dimension will also analyze in which degree the project done through a public-private partnership contributes to an inclusive society. In particular, the contribution of the project to the reduction of poverty and hunger and to the promotion of sustainable economic growth, employment and decent work for all.

In this sense, we propose an extended assessment that do not only include the economic impact of the infrastructure, as usual in these projects, but also the job creation during the length of the project. Considering a school as an example, the assessment would evaluate the effects on employment of building the school and, the ones associated to its functioning.

In order to evaluate the economic impact of the infrastructure the use of input-output tables is proposed. Input-output framework fundamental purpose is to analyze the interdependence of industries in an economy (Miller and Blair, 2009). Applying Leontief multipliers we will be able to obtain the direct, indirect and induced effects of the infrastructure. Recall that direct effects refers to the direct impact in the sector that initially received the investment associated with the project. This effect will be presented in monetary terms and jobs. Indirect effects refers to the impact arising from changes in activity for suppliers of the sector that received the investment in first place both in monetary terms and jobs. Finally, the induced effects reflects the impulse provided by the relative increase in consumption identified in those newly employed workers, both directly and indirectly.

After this calculations, we should be able to identify the level of stimulus to the regional and state economy and the level and location of employment change through the direct, indirect and induced impacts (State of Queensland, Department of State Development, 2017).

In a second step, we propose gathering data from the project itself to obtain future employment level during the duration of the private-public partnership contract.

Additionally, and taking into account that increasing women's share of wage employment in the non-agricultural sector is one indicator used to observe gender equality, it will be taken into account which percentage of generated employment is done by women.

In summary, this dimension will let us analyze the effectiveness in the use of the resources, and the economic impact that those resources generated in the society. Additionally, it will also let us observe if the project contributes to the gender equality through the employment generation.

Replicability (Condition 4)

In this dimension will be evaluated in which degree the project involves the training of local personnel associated to both the design of the contract and the project itself. Moreover, it will be also considered if the PPP involves the transmission of knowledge and know-how to different actors of the society. As result, the punctuation will express in which degree the contract and project are replicable without employing additional resources.

Engagement of stakeholders (Condition 5)

In this last dimension will be under evaluation the degree of engagement of stakeholders. This will be measured through different criteria such as, the involvement

of civil society and NGOS in the project, the media exposure, and, the level of citizen's awareness about the project. Moreover, it will be also assessed if the project contributes to women empowerment.

This quintuple assessment will allow to observe from different angles if PPPs can be considered People-Firsts.

2.2. Score calculation

Every item described within the fifth dimensions will be scored from 0 to 5. Some weights will be assigned to each of these, so the final score of the dimension will be a number between 0 and 5. The extreme cases of 0 and 5 will represent zero alignment with SDGs of the PPP under evaluation and full alignment with SDGs, respectively.

Final score will sum up a maximum of 25 points. Beside this final score, that will be the one allowing to evaluate if a PPP is profitable for people's quality of life and improvement, separately, each evaluation will give an independent score from 0 to 5, allowing to observe the performance of the PPP in each of these specific criteria, and offering an opportunity to benchmark PPPs between them from different scopes.

These Global and individual scores will be a perfect tool to learn how to improve PPPs, as a tool to reach SDGs. Public officers will be able to learn from an overall PPP project, or observe specific criteria that might be a priority for their government and society.

2.3 Sensitivity Analysis

The methodology will be tested with projects of different areas such as agricultural and regional development, health, education, water, transport, energy, and, waste management, among others. Both the nature and the number of cases tested will depend of data availability.

The IESE Specialist Center on PPP in Smart & Sustainable Cities has already a set of PPP Case Studies that can be used as a first test of the methodology. Beside these cases, the set of almost 100 cases collected since 2016 by UNECE can be also a potential data base to prove the performance of the score. Data bases from other stakeholders, such as the World Bank, CAF-Development Bank, Inter American Development Bank or the European Investment Bank can be used in a second-round testing the methodology.

3. Team

To reach this project, a core-team will be settled inside the IESE Specialist Center on PPP in Smart & Sustainable Cities. Lead by Valeria Bernardo, Post-Doctoral Researcher of the center, together with Prof. Joan Enric Ricart, the team will develop the methodology.

Together with this core-team, an Expert Team to act as an informal advisory board will be set up. This Expert Team will be composed of international renowned experts on PPP coming from the Public Sector, the Private Sector, Civil Society, Multilateral Agencies and the Academia.

The Expert Team will discuss the activity done by the core-team and will make recommendations to improve it.

3.1 Specialist Centre on PPP in Smart & Sustainable Cities of IESE Business School

- Joan Enric Ricart- Academic Director
- Valeria Bernardo- Post Doctoral Researcher
- Jordi Salvador - Researcher
- Juan Piedra – Research Assistant
- Carlota Monner- Technical Support
- Pascual Berrone- Research Fellow
- Xavier Fageda- Research Fellow

- Francesc Trillas- Research Fellow   -   Miquel Rodríguez Planas- Manager

3.2 Expert Team

Group of specialists from the Public Sector, Private Sector, Multilateral Institutions (United Nations, World Bank, CAF, among others) and Civil Society.

4. Proposed Timing

The project is estimated to take approximately seven months, between May and November 2018. Programmed meetings and expected delivery times are detailed in the Table below.

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Kick off	X																											
Meetings with Advisory Board					X						X						X				X							
First draft Methodology proposal									X																			
Second draft Methodology proposal													X															
1st results tested methodology																			X									
2n results tested methodology																							X					
Approval Mehodology UN																												X

References:

Banister, D., and Thurstain-Goodwin, M. (2011), Quantification of the non-transport benefits resulting from rail investment, *Journal of Transport Geography*, 19 (2), 212-223.

Blackwell, M., Cobb, S., and Weinberg, D. (2002), The economic impact of educational institutions: Issues and methodology, *Economic Development Quarterly*, 16 (1), 88-95.

Berrone, P., Fageda, X., Llumà, C., Ricart, J. E., Rodríguez, M., Salvador, J. and Trillas, F. (2018), Asociación Público-Privada en América Latina: guía para gobiernos regionales y locales, Caracas, CAF.

Boopen, S. (2006), Transport infrastructure and economic growth: evidence from Africa using dynamic panel estimates, *The Empirical Economics Letters*, 5 (1), 37-52.

Chaurey, A., Krithika, P. R., Palit, D., Rakesh, S. and Sovacool, B. K. (2012), New Partnerships and Business Models for Facilitating Energy Access, *Energy Policy*, 47, 48–55.

Conley, H. and Page, M. (2014), Gender Equality in Public Services: Chasing the Dream, *Routledge*.

Dellas, E. (2011), CSD Water Partnerships: Privatization, Participation and Legitimacy, *Ecological Economics*, 70 (11), 1916–1923.

Démurger, S. (2001), Infrastructure development and economic growth: an explanation for regional disparities in China? *Journal of Comparative Economics*, 29 (1), 95-117.

de Rus, G. and Inglada, V. (1997), Cost-benefit analysis of the high-speed train in Spain, *The Annals of Regional Science*, 31 (2), 175-188.

Diakoulaki, D. and Karangelis, F. (2007), Multi-criteria decision analysis and cost–benefit analysis of alternative scenarios for the power generation sector in Greece, *Renewable and Sustainable Energy Reviews*, 11(4), 716-727.

Duranton, G. and Turner, M.A. (2012), Urban growth and transportation, *Review of Economic Studies*, 79 (4), 1407-1440.

European Investment Bank (2018), Official Journal of the European Union, February 21, 2018.

Farhadi, M. (2015), Transport infrastructure and long-run economic growth in OECD countries, *Transportation Research Part A: Policy and Practice*, 74, 73-90.

Grimsey, D., y Lewis, M. K. (2004), *Public-Private Partnerships: The Worldwide Revolution in Infrastructure Provision and Project Finance*, Edward Elgar Publishing, Cheltenham, United Kingdom.

Holl, A. (2004), Manufacturing location and impacts of road transport infrastructure, empirical evidence from Spain, *Regional Science and Urban Economics*, 34 (3), 341–363.

Hospido A., Rodriguez-Garcia G., Moreira M.T. and Feijoo G. (2012), LCA in wastewater treatment: conventional systems. In: Comas J, Morera S (eds) *Life Cycle Assessment and Water Management-Related Issues*, Documenta Universitaria, Girona, 43–60.

Hutton, G., Haller, L. and Bartram, J. (2007), Global cost-benefit analysis of water supply and sanitation interventions, *Journal of Water and Health*, 5(4), 481-502.

Jiwattanakulpaisarn, P., Noland, R., Graham, D. and Polak, J. (2009), Highway infrastructure investment and country employment growth, A dynamic panel regression analysis, *Journal of Regional Science*, 49 (2), 263-286.

Knowles, R. D., and Ferbrache, F. (2016), Evaluation of wider economic impacts of light rail investment on cities, *Journal of Transport Geography*, 54, 430-439.

Lakshmanan, T. R. (2011), The broader economic consequences of transport infrastructure investments, *Journal of Transport Geography*, 19 (1), 1-12.

Larsen H.F., Hauschild M., Wenzel H. and Almemark M. (2007), Homogeneous LCA methodology agreed by Neptune and INNOWATECH Deliverable 4.1. EC Project "NEPTUNE", contract no. 036845

Lundin M., Olofsson M., Pettersson G.J. and Zetterlund H (2004), Environmental and economic assessment of sewage sludge handling options, *Resources, Conservation and Recycling*, 41, 255–278.

Lassaux S., Renzoni R. and Germain A. (2007), Life cycle assessment of water from the pumping station to the wastewater treatment plant, *The International Journal of Life Cycle Assessment*, 12, 118–126.

Miller, R. E. and Blair, P. D. (2009), *Input-Output Analysis. Foundations and Extensions*, Cambridge University Press, Second Edition.

Mouraviev, N. and Kakabadse, N. (2014), Impact of Externalities on Sustainable Development: Evidence from Public-Private Partnerships in Kazakhstan and Russia, *Corporate Governance: the International Journal of Business in Society*, 14 (5), 653–669.

Pinz, A., Roudyani, N. and Thaler, J. (2018). Public–private partnerships as instruments to achieve sustainability-related objectives: the state of the art and a research agenda. Public management review, 20(1), 1-22.

Quah, E. and Haldane, J. B. S. (2007), Cost-benefit analysis, *Routledge*.

Reynolds, A. J., Temple, J. A., Robertson, D. L. and Mann, E. A. (2002), Age 21 cost-benefit analysis of the title I chicago child-parent centers, *Educational Evaluation and Policy Analysis*, 24 (4), 267-303.

Siegfried, J. J., Sanderson, A. R. and McHenry, P. (2007), The economic impact of colleges and universities, *Economics of Education Review*, 26 (5), 546-558.

State of Queensland, Department of State Development (2017), Economic Impact Assessment Guideline, April.

Szulecki, K., Pattberg, P. and Biermann, F. (2011), Explaining Variation in the Effectiveness of Transnational Energy Partnerships, *Governance*, 24 (4), 713–736.

Yescombe, E. R. (2007), *Public-Private Partnerships: Principles of Policy and Finance*, Butterworth-Heinemann/Elsevier, Oxford.