



CAPABILITY



Demonstration Project Public Private Partnership Background Material





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Public Private Partnership

Preface	4
1. Introduction	5
1.1 Current Assessment of Genetic Diagnostics	5
1.2 Genetic Diagnostics in Emerging Markets and Developing Countries	5
1.3 Solution to the Lack of Funds in Emerging Countries	6
2. Definition and Scope of PPPs	7
2.1 Definition and Characteristics of PPP	7
2.2 Participants	7
2.3 Forms of Privatisation	8
2.4 Advantages of PPP	9
2.5 Disadvantages of PPP	10
2.6 Application Areas	11
3. PPP Models	12
3.1 In Private Ownership	12
3.2 In Public Ownership	13
4. Models for Financing	14
5. Procedural Phases of a PPP	17
6. PPP in Development Aid Programmes	17
7. Case Studies	20
7.1 Fürthermare	20
7.2 Hospital in Lesotho	20
8. Outlook	21
9. Conclusion	22



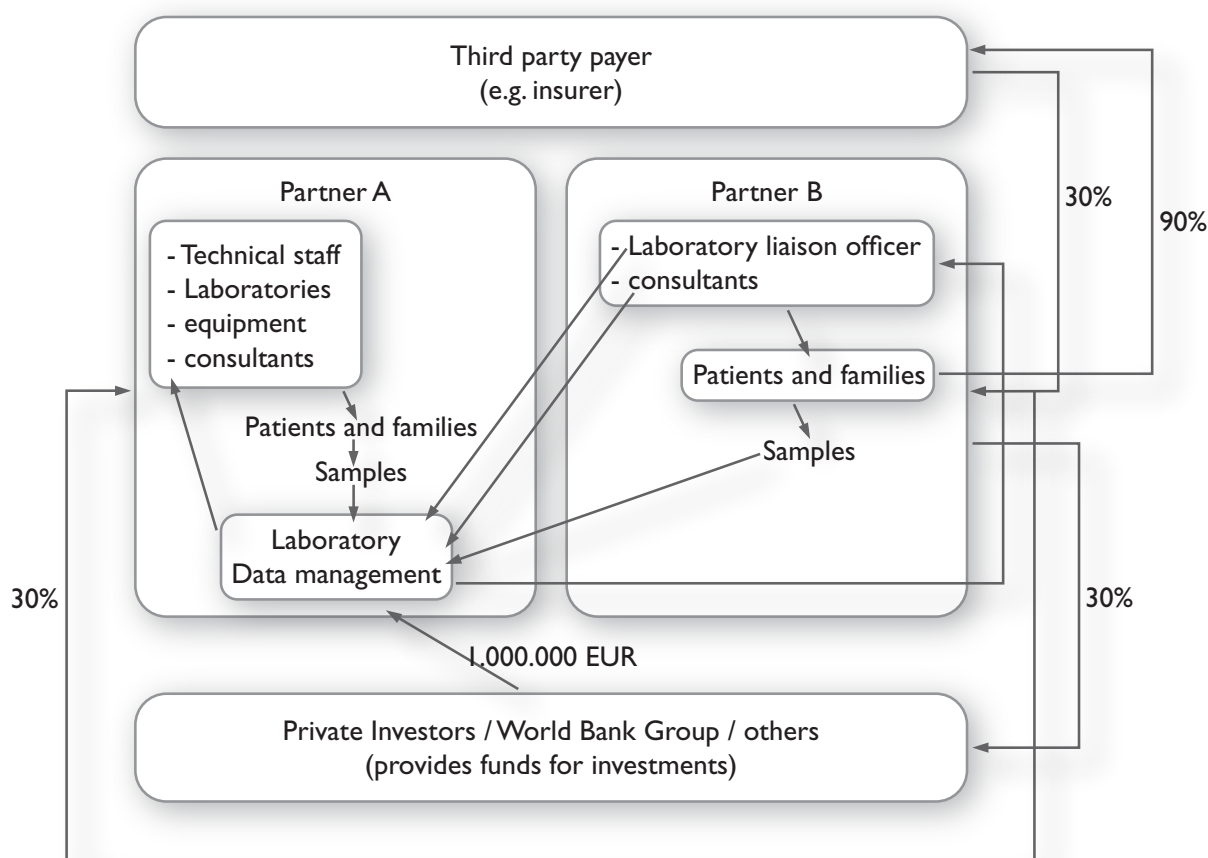
Preface

Florian Meier and Jörg Schmidtke

Health care systems in emerging economies, willing to set up or broaden the scope of clinical genetics services, in particular genetic testing and screening, all face the problem of very limited resources that can be made available for these novel technologies. It appears that attracting private funds in order to satisfy a public need has so far not been seriously considered in these economies. This demonstration project is intending to explore such possibilities by collecting background information on Private-Public-Partnership models with an intention to encourage the establishment of genetic services built on such principles.

As an introduction and food for thought, we would like to present a health economic

“Gedankenexperiment”(like figure below): How to create a win-win situation between a partner from an emerging economy (Partner A) and one from an industrialized country (Partner B) in setting up a genetic service. The model takes advantage of currently much lower staff and other running costs in A as compared to B. An investor provides a needed amount, e.g. 1 million Euro, to start up service provider A. This service comprises testing samples of both its own catchment area and that of Partner B. Partner B ensures personal oversight over laboratory processes in A. Probands in A benefit from this system by paying a discounted premium, e.g. 90% of what they paid before. Probands in A are not charged at all for these services. Partner A, Partner B, and the investor are reimbursed by appropriate quota, e.g. 30% each.





I. Introduction

I. Current Assessment of Genetic Diagnostics

Genetic diagnostics is a field within medical genetics that has become more and more influential throughout recent history. In fact, the amount of scientists that have been awarded the Nobel Prize for rendering outstanding results in the field of genetic research are indicative of the importance of human genetics.

The fast development in genetic research can be attributed to methodical, technological advancements. Theoretical constructs that once could not be realized, are currently being placed into practice because of technological progress. Additionally, such theoretical blueprints can now even be tested through experiments and verified within the confines of the scientific method.

In industrialized countries, modern technology gives way to clinical genetic services that can be offered to general public and can further become widely accepted as a medical standard. Research grants, development-funds, the willingness of capital investment and the overall private market interest combined with increased demand and higher spending capacity form attractive resources that research establishments (i.e. universities, certain private institutes and profit-driven pharmaceutical companies) can utilize. The funding can cover everything from qualified personnel to high-tech equipment laboratories. These funds provide additional incentives for companies to invest in such high-tech research establishments.

Financial investments have enabled organizations to bring together different high-tech machinery with field-related specialists to develop various aspects of genetics including genetic diagnostics. Even when looking towards the interim, one can notice that the results go beyond cognition of discoveries. There are plenty of successfully established products on the market that have been developed through such research channels. These investments pay off largely in part because of the many services in genetic diagnostics that are part of a basic comprehensive health care package. These proven services are widely accepted and are also profitable for investors.

Private individuals that enquire about genetic tests are already seen the industry as potential clientele and it is a meaningful indication of the genetic dia-

gnostics growth potential. For example, in Germany insurance funds are convinced that clinical genetic services should be an essential part of the medical supply, and so they take it into account when developing their standard health insurance programs. The solitary financed compulsory insurance funds in Germany bear the costs for genetic diagnostic tests, and so it assures the continuance and the development of the sector.

2. Genetic Diagnostics in Emerging Markets and Developing Countries

In emerging markets, there has also been a noticeable rise in clinical genetic services but obviously it is not on the same scale as that in developed nations. In comparison with the industrial countries it can be noticed that the reason for a deficit is not the lack of expertise but the overall lack of availability for general public.

The availability of clinical genetic services is strictly limited by the structure of the different health care systems; moreover, certain insurance protectionist measures also exclude a large part of the population for such services. Additionally, only a small wealthy minority within the total population can afford the costs for a private genetic test. In short, the income generated by the lower and middle classes can't cope with the high costs.

Genetic competence centers are very rare in territorial states throughout the third world. There are of course, some diamonds in the rough, like the genetic research centers found in South Africa, Brazil or Argentina. Unfortunately, these isolated centers often lack the ability to reach farther than their immediate area. Thus people who live in rural landscapes without developed infrastructure have extremely limited possibilities to make of use clinical genetic services. Since the capacity of genetic diagnostics cannot be fully appropriated, it also means building new centers in such countries wouldn't be cost-effective. With that said, even if the genetic diagnostic centers were within traveling distance, most individuals could still not afford the tests due to deficiencies in the health care system.

Health care policy in the developing world is often forced to prioritize services offered by the overall system. The distribution of the constrained finan-



cial resources is generally based on assessed systemic needs and opportunity cost. In other words, a health care system in an emerging country has lower financial endowments that cannot afford services like clinical genetic diagnostics.

Broadly speaking, the main reason for the differences between emerging and industrial countries is the limitation of financial resources.

3. Solution to the Lack of Funds in Emerging Countries

The main challenge regarding distribution of clinical genetic services in emerging countries is the lack of funds. There needs to be research-based solution that considers the existent situation and aims to create a viable supply for the whole population.

Considering the determinate funds, it is possible to redistribute the current resources by modifying the criteria for redistribution and rationing priorities within the offered services. Thereby some patients can get necessary access to additional health care, while the medical supply can be reduced for another group of patients less in need. It is then essential and fair to have a high transparency as it relates to the accordance of the responsible persons and/or health ministers. The ability of this idea to be realized depends on the political, ethical and economic will of the particular emerging country.

There is more than one possibility to use the resources in a more efficient way. Economization of several areas in health care would also save resources that could be used for other parts. Thereby using the same amount of resources; however, the output could be increased. For example, the public hospital sector could reduce costs through more efficient treatment and optimizing organization structures. This would reduce the necessary costs for the hospital sector but keep the services offered intact. The freed up financial resources could then be used for clinical genetic services.

Another obvious solution is to simply increase the overall health care budget on principle. The increased budget would give the health care authorities a better ability to meet the needs of the population. The capital could be easily raised by increasing taxes. The money could also be generated by redistributing

other governmental financial resources; although, it may come at the expense of other social services. For that matter, privately held and publicly-traded companies also pose an alternative source of capital.

The most viable and non-disruptive model for the government would be to create a public-private partnership. As it is likely, the municipality can't or doesn't want to perform its public duties by its own then the public-private partnership is a great option. The PPP (public-private partnership) is a very successful model that benefits both business bottom lines and societal needs.



2. Definition and Scope of Public Private Partnerships

2.1 Definition and Characteristics of PPPs

The fundamental idea of a PPP is a cooperation between the public and private sectors aimed at mutual success.

On account of the diversity of the areas of application and the range of combination possibilities there can be no universally valid definition, however it is fundamental that the different partners apply their expertise to the project and that the cooperation is not limited to a purely financial arrangement. PPP is a contractually agreed long-term cooperation between a public authority and partners from the private economy, in which the necessary resources (e.g. Know-how, equipment, capital, personnel, etc.) are supplied for reciprocal use in a mutually structured organisation and the existent project risks are optimally allocated to the partners in accordance with their risk expertise.

In order to differentiate PPP from the classical collaboration between the public and private sectors seven fundamental features of a PPP are presented in the following.

1) Fulfilment of a public duty

A PPP cooperation always results in the discharging of a public duty. One understands this to cover those areas of public service, where the authority has a duty or responsibility to provide amenities and services to the community in compliance with constitutional or statutory legislation.

2) The partners in a PPP include at least one public authority and at least one private contractor

The prerequisite qualification for a public authority partner in a PPP is the activity in the sense of a public authority, i.e. a local authority or a decentralised organisation, dedicated to serving the interest of the public and responsible for providing the public with important services. Private partners are commercial companies, who have the expertise and economic appreciation to implement the common goal.

3) Provision of an economic service

The common aim and effort must yield an economic result. Both partners are interested in achie-

ving an output of the project. The public partner expects an effective and efficient discharge of the public duty in question, while the private partner hopes that the PPP will provide an opportunity to expand into new areas of operation and win further business contracts. The PPP typically yields a financial remuneration for the private contribution through a service fee from the public authority and/or the user.

4) Mutual responsibility association

The focussing on mutual aims by both partners and the cooperative accomplishment of the tasks signifies a mutual sharing of responsibility. This marks the difference quite clearly between the classic customer-contractor relationship and the public authority – private contractor relationship.

5) Bundling resources

In a PPP the various equipment, capital and know-how necessary for the fulfilment of the project are supplied in each case by the partner most capable of doing so. The potential for synergy effects and savings through efficiency are utilised.

6) Risk allocation

In a PPP it is typical for the risks to be distributed among the partners according to their ability to deal with them, i.e. who can best calculate and influence the risks.

7) Long-term and process-oriented cooperation

An elementary characteristic of a PPP is the orientation to its life-cycle, i.e. the cooperation is maintained throughout the complete life cycle of the object. The focus remains on the service aimed for. The development process is not completely defined and can during the life of the project be revised and changed with the mutual agreement of the partners.

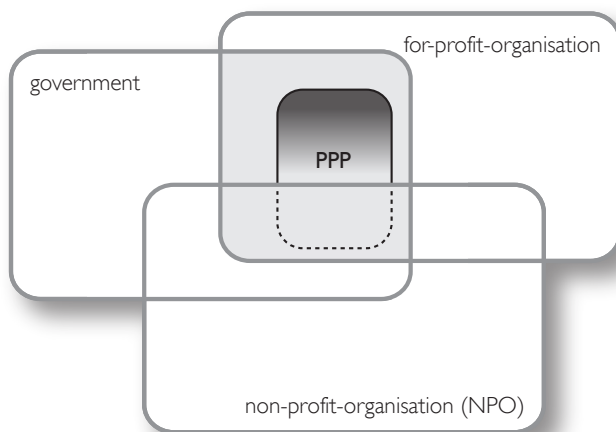
2.2 Participants

Basically a PPP is a cooperation between the public and private sectors. That is where the main focus lies. Occasionally a third type of organisation may become involved, e.g. non-profit-making organisations (NPO).



A non-profit-making organisation (abbreviated NPO, i.e. not-for-profit) is any organisation that does not aim to make a profit, and which is not a public authority. Whereas normal profit oriented companies exist to earn and distribute taxable business earnings to shareholders, the non-profit-making organisations exist solely to provide programmes and services that are of public benefit. Often these programmes and services are not otherwise provided by local, state, or national authorities. While they are able to earn a profit, more accurately called a surplus, such earnings must be retained by the organisation for its future provision of programmes and services. Earnings may not benefit individuals or shareholders. NPOs are often charities or service organizations; they may be organised as a non-profit-making corporation, as a trust, as a cooperative, or they may be purely informal.

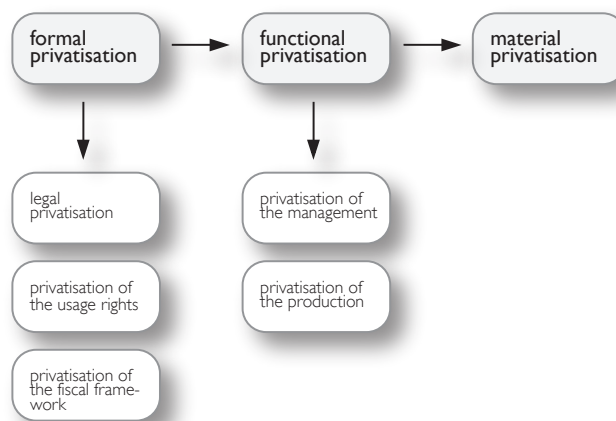
The cooperation of government, profit making companies and non-profit-making organisations is not typical for a classical PPP. This constellation occurs most frequently in the development aid programmes



for the developing countries where companies wish to become involved. The NPOs frequently undertake the coordination of the development projects, providing the function of a negotiator for both the private companies and the government authorities on location. The connections between government bodies and NPOs and the various forms of possible cooperation models for NPOs and commercial companies lie beyond the scope of this paper.

2.3 Forms of Privatisation

When one considers PPP, it is normal to assume that the ownership belongs to the contracting public authority. This can be the case, but it is not necessarily so. For various project models such as the purchaser model or the leasing model the ownership of the object of the PPP remains with the private partner until the transfer of ownership to



the public authority occurs at the completion of the project. Since privatisation in some form is always an element of the PPP, even if only as a partial privatisation, various forms of privatisation are described in the following.

1) Formal Privatisation

In the case of formal or organisational privatisation the provision of public services is transferred to corporate entities, although the ownership of the same remains completely with the public authority. One differentiates between legal, right of use, and financial privatisation. The responsibility to provide the public service remains in the domain of the public authority for these forms of privatisation. The trading and disposition rights, with the exception of the legal privatisation, are limited to the favour of the private partner.

For **legal privatisation** the service supplier takes on the form of a private corporate structure, eg. a limited company or a public company. Since this merely involves a change in the organisation structure of the public provider and no rights of disposal are transferred to the private partner, one refers to this as a pseudo-privatisation. The transfer from a public



authority to a private organisation raises expectation of more efficient and more economical supply of services through more compact decision-making, the application of commercial monitoring systems and a greater independence for management. Examples of this are to be found in the public hospitals.

Under the **privatisation of the rights of use** is understood the transfer of this right from the public authority to the private sphere. Examples of this include the renting of publicly owned residential buildings to private tenants and the sale of environmental rights. These have less to do with commercial profits and are to be viewed under the aspect of administrative functions of the state.

Financial privatisation is a model in which the funding for a public utility is provided by private investors and the associated responsibility is transferred to a private contractor. The ownership and legal responsibility remains in the domain of the public authority. The public authorities hope that financial privatisation will yield savings and relieve their budget. Examples of this form of privatisation are financing through funds or forfaiting.

2) Functional Privatisation

Functional privatisation or the privatisation of tasks involves the transfer of operational tasks and their funding to the private domain, whereby the responsibility for the provision and control of these services remains within the domain of the public authority. Trading and disposition rights are allocated between the public and private parties in accordance with the model being used, with the private contractor assisting the public authority in the fulfilment of its public obligations. Functional privatisation can be subdivided into management privatisation and production privatisation.

With **management privatisation** or the privatisation of service supply the organisation for the supply of services is transferred to the private sector and the private contractor as assistant for the public authority. The private partner deals under the name of the public authority, invoicing and risks are matters for the public authority, which also remains responsible for the legal and financial execution, retaining the responsibility for controlling and for the

risk of default. The aim is to achieve a more efficient supply of services by using private management.

With the **privatisation of production** the legal and financial responsibility passes to the private contractors. The public authority remains responsible for the service. This type of privatisation includes the concessional model and the operator model, in which the public authority specifies the conditions of supply and retains the right to influence and monitor the production, e.g. the quality and volumes of supplies. With this type of transfer of responsibility the public authority aims to achieve a more economic supply of services, acquisition of Know-how and a relief for the public budget.

3) Material Privatisation

Material privatisation is complete privatisation. It entails the public authority passing the organisation and funding of a task with all of its associated rights and duties to the private partner. Related public assets such as equipment and company participation are sold to the private contractor. It is often referred to as *asset privatisation*.

2.4 Advantages of PPP

1) Changed Mode of Tendering by Public Authorities („Output Specification“)

As partners of a PPP, public authorities no longer provide an all embracing specification of how a contract is to be carried out, instead the focus is laid on a clearly specified and comprehensible statement of the results to be achieved by the contract. Instead of providing a detailed description of the necessary „inputs“, the contracting public authority defines the expected „outputs“ and key elements or, as an alternative, the minimum requirements for the services to be supplied by the private partners.

The basis for a successful project is a functional, result-oriented („output-oriented“) description of the service required, allowing the private contractor sufficient opportunity to exercise creativity and apply innovative commercial decisions to how he can most effectively and most economically deliver the required results.



2) The Life-cycle Approach

With the conceptional consideration of the complete life-cycle of the contractual object, all of the relevant costs will be made transparent in the design phase (transparency of costs). The inclusion of subsequent costs following an investment in the decision-making phase enables the contracting public authority to exercise commercial control over the future life-cycle costs through the negotiation of prices, standards and responsibilities in long-term contracts. The life-cycle approach achieves the following:

- A strong awareness of the overall costs is developed in the draft planning stage
- Incentives to save costs through the optimisation of building design, function and equipment installation resulting from a sound analysis and consideration of the operational processes
- Incentives to implement a total management system for capacity and vacancy monitoring connected with the possible exploitation of additional input sources

3) Appropriate Distribution of Project Risks

An axiomatic rule for the appropriate distribution of risk factors is the allocation of any particular risk to the partner best able to deal with it (so-called „cheapest cost avoider“). In practise, this implies an obligation within the project to address questions related to the identification of the risks involved, their evaluation and their distribution. This must be given highest priority and sufficient resources must be allocated to carry out this task systematically and comprehensively.

4) Achievement-based Remuneration Mechanism

Within a PPP the public authority no longer directly provides the infrastructure, but rather takes the role of a consumer of contractually defined services. In this manner the authority needs only to pay for the service actually provided by the contractual partner. In PPP contracts the public authority's liability to pay is based on an achievement-based remuneration mechanism. Payment in full is only made to the private contractor if the contract has been completed fully

to the specified standards of quality. For standard work the contractor must be prepared to receive a reduced level of payment.

5) Competition among the Tendering Contractors

The most cost efficient solutions for a comprehensive project management for the duration of the complete life-cycle are most likely to be found under competitive conditions. Successful PPP projects are tendered for internationally within the framework of a structured, transparent tendering procedure ensuring an adequate number of competitors. A dependency upon a single tendering contractor should be strictly avoided by contracting public authorities. Competitiveness among the tendering contractors encourages the innovative spirit of the individual bidders in respect of the offered products and services and the procedure to guarantee the quality and cost leadership.

6) Know-how-Transfer and the Modernisation of Administration

The preparation and management of PPP projects requires a complex knowledge covering various specialist fields. Where the public authorities may run into problems with a project as a result of their inexperience, private sector companies are frequently more experienced. Private companies have often accrued experience and expertise on a number of completed projects. As such they are proficient and qualified partners for a successful and smooth implementation of a PPP project.

2.5 Disadvantages of PPP

1) There is a danger that the interest of the private sector will be limited to those projects or project elements which promise a high yield („cherry picking“). Less lucrative or even loss-making areas will continue to be the domain of the public sector.

2) PPP is not a sustainable financial instrument. It lays as a medium and long term burden on the public authorities' budget and considerably reduces their financial room for manoeuvre. As a rule PPPs do not attract a greater involvement of private capital. Mostly the funding models such as forfeiting with



waivers of objections are applied, for which sanctions and the complete transfer of risk are practically impossible.

3) PPP procedures are not attractive for small and medium sized businesses. They tend to rather favour oligopoly structures which are more likely to achieve greater savings in efficiency. The PPP demands for possible volume discounts and scaling effects conflict with the possibilities available to the smaller and middle sized companies.

4) It is seldom that the contractual period of a PPP project matches the life-cycle of buildings with all phases of their use. Project life-cycles are derived from property life-cycles. The efficiency of a PPP procedure is not achieved if the contract doesn't cover the full life-cycle of the object. Consequential costs occurring after the completion period of the contract have to be covered by the public authority.

5) Using a powerful private partner with project expertise who dominates the public sector partner, but without whom the project cannot be implemented, results in an imbalance of the resources in the organisation of the PPP.

6) The long-termed aspect can represent a problem if it becomes a hindrance to adapting to changing conditions or makes any necessary adaption more expensive. There is also the risk that the dependency on private partners for the complete period may lead to difficulties if one or more become bankrupt during the project. For example, in the case of a project-funding with forfeiting, Then in spite of the loss of performance caused by the bankruptcy, the monthly repayments for loans and interest to the bank must be continued.

7) The choice of a partner, who proves not to be suitable, who does not fulfil his contractual obligations or with whom a cooperation is fraught with conflicts can lead to an inefficient PPP or even to its collapse.

8) PPP is highly suited for large scale and complex projects. For smaller projects PPP is itself too complex. If the management underestimates the considerably more expensive necessary resources for the

conception and monitoring phases of PPP in comparison with conventional implementation procedures, they may be overburdened by PPP.

9) PPPs as a compromise between formal and material privatisation does not lead to a common goal, because the private investors' aim for a maximisation of profits is incompatible with the aims of PPP.

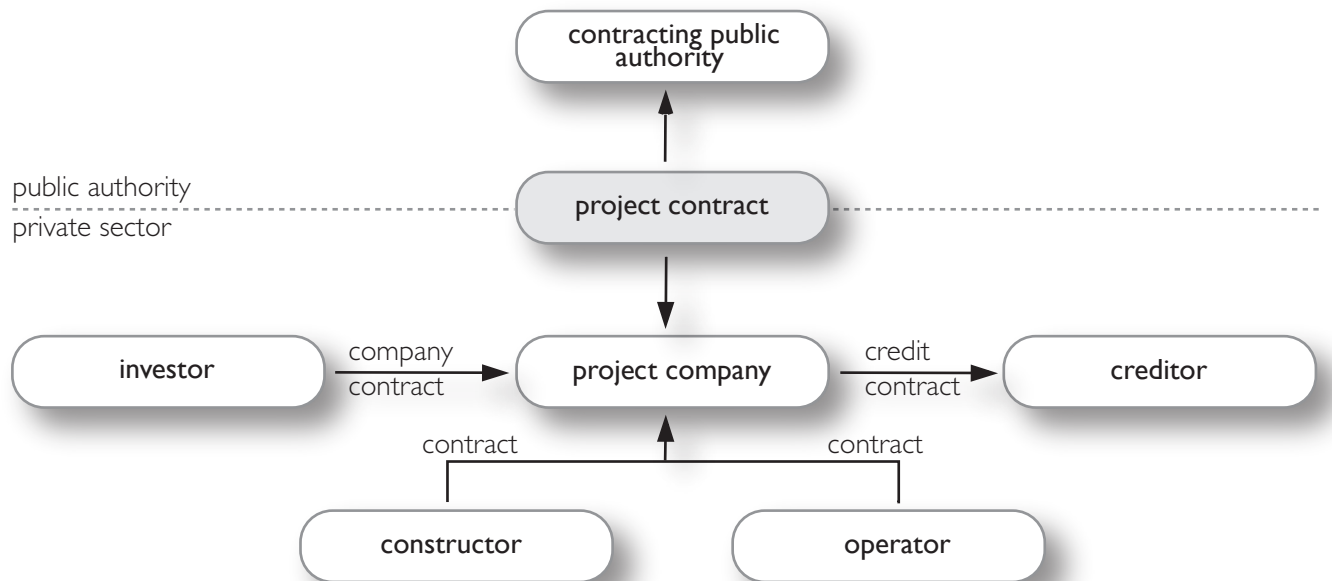
2.6 Application Areas

The cooperation in the form of PPPs exists in many commercial sectors, some of which are briefly highlighted in the following.

- Real estate projects: administration buildings, schools, hospitals, sporting facilities, theatres
- Logistics for the transportation of commodities: IT-equipment, telephone systems, management of vehicle fleets
- Municipal essential supplies and waste disposal systems, local public transport
- Urban development (Partnerships for planning, land development, construction on single sites or large areas, economic and cultural revitalisation of complete districts)
- Economic stimulation (Partnerships for the economic development of an area with the participation of the local and regional public authorities, universities, chambers of commerce and industry, chambers of trade, private companies, credit institutions)
- Infrastructure projects such as commercial transport centres or harbour installations, also operator or concessional models for the construction of roads, bridges and tunnels.



3. PPP Models

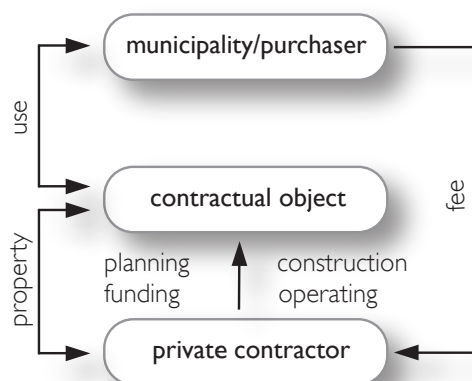


3.1 In Private Ownership

1) PPP Purchaser Model

In the case of the PPP-Purchaser model, the private contractor is responsible for the design, the construction (building and/or refurbishment), the funding and the operating of the contractual object for the use of the public contracting authority. For the complete duration of the contract the object

control of the building and exercising its economic ownership. On expiry of the period of contract the legal ownership of the contractual object is transferred to the contracting authority. Under this model the private contractor receives a monthly service payment which covers the total investment and operational costs as well as the risk and profit.



remains the property of the private contractor. The usage of the object is assigned to the contracting public authority, thereby placing them effectively in

2) PPP FM-Leasing Model

Under the PPP-FM-Leasing model the private contractor is responsible for the design, the construction (building and/or refurbishment), the funding and the operating of the contractual object for the use of the public contracting authority as well as the utilisation, where appropriate.

The private contractor allows the public contracting authority the use of the object which legally and commercially belongs to him for the whole of the contractual period. There is no obligation to transfer the legal ownership at the termination of the contract. The public contracting authority has usually a purchase option based on a fixed calculated residual value of the property. If this purchase option is invoked at the termination of the contractual period, the commercial and legal ownership is transferred to the contracting authority.

The refinancing involves the public contracting authority paying a monthly leasing rate to the private contractor to cover the costs of partial amortisa-



tion of investment, operating costs as well as risk loading and profit margins. The residual value of the object at the end of the contractual period, viz. the purchase price for the authority, is the difference between the investment and full amortisation.

3) PPP Renting Model

Under the PPP renting model the private contractor is again responsible for the design, the construction (building and/or refurbishment), the funding and the operating of the contractual object for the use of the public contracting authority as well as the utilisation, where appropriate.

The private contractor allows the public contracting authority the use of the object which legally and commercially belongs to him for the whole of the contractual period. Again, there is no obligation to transfer the legal ownership at the termination of the contract. The public contracting authority can however be given a purchase option. The purchase price is determined by the current market value at the end of the contractual period. If this purchase option is invoked at the termination of the contractual period, the commercial and legal ownership is transferred to the contracting authority.

The public contracting authority pays a monthly service fee to the private contractor. This is based not on the size of the investment, but on the prevailing commercial rent index and the remuneration for rendered services. If the purchase option is invoked, the contracting public authority pays the contractor the current market value for the object.

3.2 In Public Ownership

1) PPP Owner Model

Under the PPP owner model the private contractor is responsible for the design, the construction (building and/or refurbishment), the funding and the operating of the contractual object for the use of the public contracting authority.

The contractual object belongs to the public contracting authority. For a new construction the ownership of the object is transferred to the public contracting authority in successive stages. At the latest the legal and commercial ownership of the property is transferred fully to the public contracting authority on completion of the final inspection of

the construction. The private contractor is granted a comprehensive right to the use of the property and the right to hold the title deeds. This can be achieved either under usufructuary law (one having the right of use or enjoyment of something) or through a contractual arrangement in the shape of a licensing agreement without rights in rem.

The refinancing of the investment, operating costs, risk loading and profit margins is covered by a monthly performance fee to the private contractor.

2) PPP Contracting Model

Under the PPP contracting model the private contractor is responsible for the design, the installation or optimisation of specific technical equipment or parts thereof belonging to the public contracting authority

At the completion of the technical installation the ownership passes immediately to the public contracting authority. The private contractor is granted usage rights for the installation. Respecting the ownership structure the contracting model is usually based on the PPP owner model.

Whereas the other models include the investment in the calculation of the service fee, the contracting model bases the monthly fee on the past costs for the public contracting authority. With this fee the private contractor must cover all of his costs and include risk loading and profit margins. This provides him with a strong inducement to reduce the costs through an optimisation of the equipment.

3) PPP Concession Model

Under the PPP concession model the private contractor is responsible to the public contracting authority for the provision of a specific service - the design, the construction (building and/or refurbishment), the funding and the operating of the contractual object - directly to the public at his own economic risk.

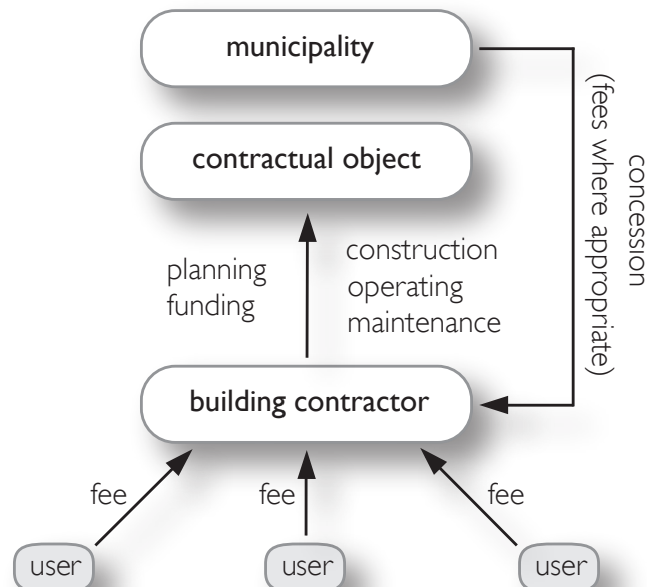
The PPP concession model can be combined with all of the models described above.

In return for the obligation to provide a service the public contracting authority empowers the private contractor to refinance his investment, running costs, risk loading and profit margins either with a commercial fee or with a charge under the public authority's legislation. There are two alternative systems for the collection of this fee. Either the priva-



te contractor enters into a contractual agreement with the user and charges them directly, or the public contracting authority collects the fee from the users and forwards it on to the private contractor.

Additionally, it is possible for the public contracting authority to provide some form of start-up financial support or subsidies for the operation of the service.



4. Models for Financing

The financing is of enormous importance for the success of a PPP-project. However PPP should not be viewed solely as a financial instrument for the relief of public authorities. The financial resources involved in a PPP should be seen more as a prefinancing or the provision of bridging finance.

1) Financial Resources

For the financing of a PPP-project various resources can be considered. Equity, borrowed or mezzanine funding and where appropriate public subsidies.

Equity capital or risk capital for a PPP-project is provided by co-partners who are involved in the project, whereby it is not always necessary for the private partner to contribute private capital. However the advantage of the parties to the project being involved in the funding lies in their increased interest in the long-term success of the project. Corporate investors such as assurance companies or private investment brokers may also be attracted to provide

financial support for the project if it shows promise of a good return on investment and is well structured. There is no requirement to limit the number of proprietors or investors. The financial resources are available for the funding of the project for an unlimited period. Since in the event of losses during the PPP project the equity holders become liable and in the worst case can lose their entire invested capital, they expect a financial compensation for this risk in the form of a risk premium or alternatively a share of the profits. Normally the provider of equity capital carries the greatest risk and is therefore given the highest compensatory return, which in turn makes equity capital more expensive than borrowed capital.

Borrowed capital, either as credit or through the issue of bonds, is provided by banks and credit institutions and is available to the project for a limited period of time as contractually agreed. The time limit can be removed if the loan is guaranteed by a



public authority within the framework of a forfeiting model. This form of guaranteed borrowing is practically without risk for the lending bank, but it brings the lowest yield in the form of low interest rates. Credit or loans are provided by the banks based on individually negotiated conditions. The interest rates, which in turn determine the capital cost of

ject company, without having to provide the external investors full shareholder rights. In case of bankruptcy the mezzanine capital has a lower ranking, leaving the company an improved chance for raising more financial resources.

Mezzanine capital serves mostly to improve the

short term equity-to-assets ratio of existing projects when other forms of capital cannot be raised. In comparison with „real“ equity capital it is available for a limited period. The investors – as a rule private equity companies and banks – are more interested in the short term return and less on security or debt guarantees.

A stable cash flow situation in the short term is therefore a much more important criterion for investment, since this guarantees that the interest payments will be made. Although

Methods of financing PPP- Projects. Who needs equity capital?

Important differences between financing with equity, mezzanine and borrowed capital

Criterion	Equity	Mezzanine capital	Borrowed capital
provider of finance	owner	creditor	creditor
interest	<ul style="list-style-type: none">- participation in profit or loss- no fixed interest entitlement	<ul style="list-style-type: none">- profit-(un)related, higher interest-rate entitlement- partial participation in profit or loss	usual case-interest entitlement independent of profits
liability	for the value of the investment or with private assets	dependent on the arrangement (debt or equity)	fundamentally no liability
In case of bankruptcy	usual case – lowest priority entitlement	entitlement according to ranking	entitlement of front-ranking mortgage has highest priority

the PPP project, are dependent on the period of the loan and the cost of refinancing and are augmented by risk loading and profit margins. The repayment agreement is based on the free cash flow (defined as the positive, periodic currency surplus of a commercial undertaking) of the project, which is the most important security for credit and can cover a time period of up to 30 years for PPP projects.

Mezzanine capital is a flexible form of funding lying between equity capital and borrowed capital. In particular it may be provided in the form of loans, participation certificates and dormant equity partnerships. The low priority ranking of mezzanine capital compared with the other creditors strengthens the own equity of the borrowing company or PPP-pro-

viders of capital abstain from any form of involvement in the operational business and dispense with their mezzanine demands, they usually specify concrete balance sheet objectives and ratios, which can result in some degree of limitation of commercial freedom for the undertaking. The yield for mezzanine capital normally lies between those for equity capital and long-term borrowed capital.

2) Public Resources

The funding of PPP can be from private investors, but may also come from public financial resources (subsidisation). PPP projects are suitable for non-repayable appropriations, state subsidies, guarantees and credit with favourable conditions. For example, German hospitals are subsidised under the „Kran-

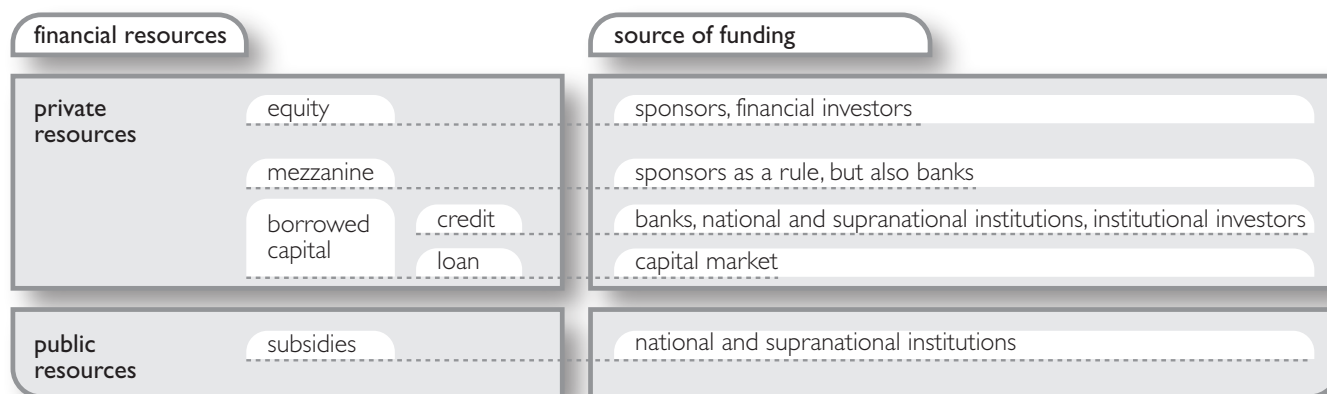


kenhausfinanzierungsgesetz“ (KHG), (Law for the financing of hospitals) which provides non-repayable monetary support for earmarked applications. In the case of state guarantees, a contractual commitment is made that in the event of not being able to repay a loan from a third party, the state guarantees to pay the creditor the amount owing.

Favourable condition credits – often with better conditions than are offered for municipality credit – can be obtained as loans from the German „Kreditanstalt für Wiederaufbau (KfW)“ - credit institute for reconstruction - or the World Bank, both of which have special programmes for PPP. (cf. chapter 6.2).

equity, and through borrowed monies from credit institutes. The suppliers of borrowed capital for a PPP project are primarily concerned with the potential yield and the risks related to the project. Highly relevant for an allocation of credit is, from their point of view, the issue whether the cash flows will be adequate to cover the capital costs, the running costs of the operation and to fulfil the yield expectations of the shareholders.

The creditworthiness of the project company itself is of lower priority. The orientation on the expected cash flows instead of – as is usually the case – on the balance sheet structure can result in a higher volume of credit. The liability of the project com-



3) Financing models

There is no standard concept for the funding of a PPP. The form and structure of the financing must be individually tailored to suit the type of business model used and in accordance with the desired distribution of risk and responsibilities as well as adapting to fit the relevant legal framework. There are however two typical models for financing PPPs, either through project funding or forfeiting. The former is used in the large majority of international PPP projects, the latter is applied for approx. 90% of the PPPs already implemented in Germany.

Project funding is understood as the financing of a self-supporting, circumscribable economic entity, for which the suppliers of borrowed capital, in respect of the debt service, are primarily interested in the expected cash flows in determining the size of their cash flow related loans. This economic entity for a PPP is the project company, which acquires financial resources from sponsors or financial investors with

pany is limited to the raised equity capital. Since the financial risk in a project funding is carried by the private investors, the project does not increase the public liability, so that it does not threaten to cause the public debt to be exceeded beyond limits such as those stipulated in the Maastricht criteria. A project funding is generally fairly expensive and is normally only justified for a budget upwards of € 40 million. Despite the higher funding costs a project finance model may be more economical, if the sale of the risk to the project company, as seen over the total life cycle of the project, leads to savings for the contracting public authority.

The second important model for funding a project is **forfeiting**, by which one understands the selling of claims. In a PPP project the private project company sells the claims (service fee payments), which they can make against the contracting public authority, to a credit institute. These sales of claims are frequently coupled with a waiver declaration in respect of



pleas, objections and counterbalancing. Then the public authority – and not the project company, is responsible for the payments to the credit institution. Legally it is now a credit for the municipality, which is free of risk on account of a waiver of objections from the bank (not the operator). The resulting funding is with better conditions and has a far simpler structure than the other forms of funding.

For example, it is no longer a requirement that a project company exist. There is no requirement for

equity capital, so that a funding with 100% borrowed money is possible. The comparatively lower cost of transaction permit smaller projects to be more easily presented than under other funding schemes. Solutions with forfeit are characterised by a limited transfer of risk to the private partners.

In the event of bankruptcy of a project company or a project, the payments of the municipality to the bank (not to the operator) must continue, even if the service has terminated.

5. Procedural Phases of a PPP

For the purpose of completeness the procedural phases of a PPP project are described briefly without going into detail in the following, so that one can visualise the standard development cycle of a PPP project from the initial idea to the implementation.

Phase I – Feasibility Study - Requirements analysis and the Identification of Implementation Measures

This phase serves the ascertainment of the general need for the planned object and assesses whether the identified measures are economically and financially feasible. The aims of the project are specified and possible alternatives for implementation are determined. This phase is completed with a review test.

Phase II – Preliminary Preparation and Conception

In Phase II the alternative possibilities for implementation are examined in more detail in respect both of the relevant legal framework and the required funding. They are compared with each other to determine which alternative is the most economical.

The most suitable project will subsequently be recommended for the public authority's budget and a decision made for an implementation with a traditional form of contract or for a PPP project.

Phase III – Tendering and Awarding

If the decision has been made for a PPP project, the tendering procedure will be initiated in this phase and the contract awarded to the contractor or consortium of contractors with the most economic bid.

Phase IV – Implementation and Controlling the Contract

Phase IV encompasses the implementation of the project and includes the operational phase. The contracting public authority is responsible for the continual monitoring of project using the defined quality standards.

Phase V – Utilisation

Insofar as it has been contractually agreed, the private contractor has the utilisation of the object on completion of the period of contract.

6. PPP in Development Aid Programmes

Besides the classical application areas for PPP as described, PPP is also used in another sphere, viz. in the international development aid programmes. There is however a fundamental difference between PPPs in this area and the models which have been so far described. In development aid programmes

the focus of PPP is not on organisational or funding models, but merely on the integration of the private sector into the project implementation.

To achieve the integration of the potential of the commercial sector into the political aims of deve-



development aid programmes, the German Federal Ministry for Economic Cooperation and Development (BMZ) introduced the so-called „PPP Facility“ in 1999, providing funding from a special budget. This marked a paradigm change in the German development aid policy. For the first time in the history of the German Federal Republic the way was opened for a cooperation with the private sector in development aid projects, in projects initiated and developed by private companies. Previously development aid programmes were planned exclusively by the government organisations for technical and financial cooperation.

For the planning, funding and implementation of PPP projects, the BMZ uses four organisations, viz.

- **German Investment and Development Company**
Deutsche Investitions- und Entwicklungsgesellschaft (DEG)
- **The German Society for Technical Cooperation**
Die Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)
- **SEQUA GmbH**
Non-profit service organisation of the German chambers and employers' associations and
- **The Reconstruction Loan Corporation**
Kreditanstalt für Wiederaufbau (KfW)

These four organisations have different approaches to the implementation of PPPs. Each applies its individual talents and experience, whether for the preparation of reports or tender specifications, for the funding, for the technical implementation or for the training of staff. Private contractors can submit proposals to these organisations for assessment of the suitability both of the project and of the private company for subsidisation.

The conditions for the applicants are as follow.

An applicant must be able to guarantee the sustainability and financial support for the project, must have operated successfully for at least three years in the market, must employ at least ten people, be able to show satisfactorily an annual turnover of at least one million EUR and plans for a long term engagement in the partner country. As well as conditions for the

partner there are also certain standards set for the PPP project.

1) Criteria arising from the Government Policy for Aid Development

The PPP project must conform with the German Federal Government's development aid policies, be relevant for the partner country's development and fulfil standards relating to environmental conservation and social needs. The evaluation of the PPP project's suitability for inclusion in the BMZ's programme is made by one of the four organisations mentioned above.

2) Economic Criteria

Each partner contributes his core expertise to the project. The private company aims primarily at a successful commercial yield, the BMZ's organisational partner is concerned with the effective economic development as laid down in government policy. A PPP project must aim at a long term engagement of private enterprise with an element of profit. The completion of the PPP project should show a clear commercial return on investment.

3) Subsidiary Criteria

Mutual PPP projects must recognisably involve goals which exceed the key commercial tasks of the private partners. The BMZ's organisational partner provides only those services which the private contractor would not normally provide, whether they result from special legal requirements or because they are services not relevant to the contractor's key business. Commercial ventures which are solely concerned with export business or market studies are not considered to be appropriate for subsidisation.

4) The Private Partner's Contribution

The private partner must make a significant contribution to the project, with financial, human or material resources. As a general rule the private partner carries at least 50% of the project costs. The contributions of the private and public authority partners are negotiated individually for each project.

If the criteria are met, support can be provided by the chosen BMZ organisational partner. This support can be of an informal nature, providing information about the partner country or providing contacts for a successful PPP structure, or it can extend



to structural and financial support. In some cases the BMZ organisational partner will already have an established network of staff and office facilities in the partner countries, which they can make available to the commercial partner, to help him get established in the country and implement the project. Additionally the public partner can make funds available to support the PPP, up to a maximum of 50% of the complete project costs, but not exceeding 200,000 EUR.

For these PPP projects there are no comparable structures or schemes to serve as an orientation. Each PPP is developed individually, differing from the classical PPP projects where established funding models are applicable. The PPP projects in developing countries are essentially pilot schemes, demanding a measure of pioneer spirit from the commercial partners.

The World Bank

The World Bank Group (WBG) is a family of five international organizations responsible for providing finance and advice to countries for the purposes of economic development and the elimination of poverty. The Bank came into formal existence on 27 December 1945 and was founded to help with the rebuilding of the devastated countries after the Second World War.

Its five agencies are:

- International Bank for Reconstruction and Development (IBRD)
- International Development Association (IDA)
- International Finance Corporation (IFC)
- Multilateral Investment Guarantee Agency (MIGA)
- International Centre for Settlement of Investment Disputes (ICSID)

The term “World Bank” generally refers to the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), two unique development institutions owned by 185 member countries.

The IBRD focuses on middle income and credit-worthy poor countries, while IDA focuses on the poorest countries in the world. All activities are focused on developing countries, in fields such as

human development (e.g. education, health), agriculture and rural development (e.g. irrigation, rural services), environmental protection (e.g. pollution reduction, establishing and enforcing regulations), infrastructure (e.g. roads, urban regeneration, electricity), and governance (e.g. anti-corruption, legal institutions development). The IBRD and IDA provide loans at preferential rates to member countries, as well as grants to the poorest countries. Loans or grants for specific projects are often linked to wider policy changes in the sector or the economy. For example, a loan to improve coastal environmental management may be linked to development of new environmental institutions at national and local levels and the implementation of new regulations to limit pollution.

The activities of the IFC and MIGA include investment in the private sector and providing insurance respectively. Technically the World Bank is part of the United Nations system, but its governance structure is different: each institution in the World Bank Group is owned by its member governments, which subscribe to its basic share capital, with votes proportional to shareholding. Membership gives certain voting rights that are the same for all countries but there are also additional votes which depend on financial contributions to the organisation. The President of the World Bank is nominated by the President of the United States and elected by the Bank's Board of Governors.

The World Bank supports PPP by offering numerous workshops and conferences in many different countries with the subject of PPP in alliance with special Projects. (for Example : Workshop on Public Private Partnerships (PPP) for Highways: Institutional, Legal, Financial and Technical Issues). Furthermore, PPP projects are financially supported.



7. Case Studies

7.1 Fürthermare

Fürthermare, a thermal spa with sauna and wellness facilities, was opened in the town Fürth in Germany at the end of October 2007. Approximately 33 million EUR were invested in Fürthermare and the refurbishment of subsidiary indoor and outdoor swimming pools. Implementation with a PPP spared Fürth from contributing directly to the funding of the project. The pan-European tendering process resulted in the contract going to the private investor, viz. the TFB Fürth Objektgesellschaft mbH & Co. KG, which assumed responsibility for the design and cost risks involved. This company was founded specifically for the construction of the new spa facilities by the Nuremberg companies ConTech Real Estate management and Rödl Hochbau.

An agreed aim of the project was to fix the fee at the same level as the past operational deficit. A further condition was to guarantee a continued socially acceptable entry charge for the user and sufficient use of the facilities for school sport and sport clubs. The *infra* Fürth, the former provider of municipal services, had to undertake to pay the annual amount of 1.8 million EUR for the next thirty years to the owner, TFB Fürth. The new construction was funded using the forfeit model with a waiver of objections. The whole PPP project is structured as an operator model, i.e. the current owner is the private partner, who retains the concession for the first 30 years, after which the ownership will pass back to the town Fürth.

The newly founded operating company Vitaplan Thermalbad GmbH & Co. KG has been contracted to take responsibility for the running costs for the first thirty years, to ensure that no more losses occur, and to generate a profit. It has been calculated that 1.300 guests are needed daily for the company to break even. The improved efficiency advantage of using a private operator is estimated at 19.5% compared to the facilities being operated by the municipality.

7.2 Hospital in Lesotho

The Government of Lesotho recently announced that a regional consortium led by Netcare, South Africa's foremost private hospital and healthcare group, has been selected as the winning bidder for

the country's new National Referral Hospital, which is expected to dramatically improve the level and quality of publicly funded medical services in the country. IFC, a member of the World Bank Group, advised the government in the design and implementation of the project, a public-private partnership (PPP) for the Greenfield Public Hospital.

The new 390-bed facility will replace the aging Queen Elizabeth II hospital, whose staff and patients suffer from a chronic lack of resources required for the provision of medical services – including hot water, heat, medical supplies, pharmaceuticals, trained staff and regularly functioning equipment. Furthermore 35 private beds will be co-located with the State beds in the same facility, with private specialists visiting and consulting from Bloemfontein. The project requires the operator to design, build, partially finance and fully operate the hospital, including the provision of clinical services for a period of 18 years. Construction on the new hospital and clinics is expected to begin in January, 2009. The clinics are scheduled for completion in late 2009; it is anticipated the hospital will be completed in mid 2011.

The new hospital will provide a wide range of services, highly-trained staff and specialised medical equipment, while serving as the nation's primary clinical training facility for health professionals. And the operating costs for the new hospital are roughly equivalent to those at the existing facility – this means that patients will have access to significantly better medical services at the same minimal charge they pay today

The hospital project in Lesotho is the first of its kind in the region. It includes the refurbishment and upgrade of three semi-urban filter clinics to provide primary and secondary health care services to the public. Together with the hospital, these clinics will operate as a regional health network.

The project is expected to cost \$100 million, which will be partly funded by the Development Bank of Southern Africa. The project also anticipates receiving a grant of \$6.25 million from the Global Programme for Output-Based Aid and a partial risk guarantee, both offered by the World Bank Group. The World Bank Group will also provide support to the government with contract management.



About IFC

IFC, a member of the World Bank Group, fosters sustainable economic growth in developing countries, helping to reduce poverty and improve people's lives, by financing private sector investment, mobilizing private capital in local and international financial markets, and providing advisory and risk mitigation services to businesses and governments. Established in 1986, IFC's Advisory Services Department has completed over 165 transactions in more than 60 countries and is the only multilateral institution to offer direct advisory services to governments on implementing private-sector participation transactions. In 2007, IFC committed \$8.2 billion and mobilized an additional \$3.9 billion through loan participations and structured finance for 299 investments in 69 developing countries.

About Netcare

Network Healthcare Holdings Limited (Netcare), an investment holding company listed on the JSE Limited, South Africa, operates through its subsidiaries the largest private hospital networks in South Africa and the United Kingdom. As of 30 September 2007, the group managed 107 private hospitals and clinics, equipped with approximately 12 240 beds. The group has consolidated revenue from continuing operations of R18 607 million (£1 347 million) and operating profit of R2 990 million (£214 million) for the year ended 30 September 2007. Netcare has an asset total of R50 539 million (£3 617 million) and a market capitalisation of R21 963 million (£1 548 million).

Netcare was founded in 1994 and listed on the JSE on 4 December 1996 with six hospitals. Since its listing Netcare has acquired several other small and independent hospital groups in South Africa, notably Clinic Holdings Limited and Excel Medical Holdings Limited. In 2001 Netcare acquired Medicross, a managed health provider network of 75 medical and dental centres across South Africa. In January 2006 Medicross acquired Prime Cure Holdings, a provider of primary care services for the emerging market with a further 25 centres, a network of 3 300 compliant doctors and 177 355 managed care lives. In October 2007 Netcare acquired the remaining 56,25% of Community Hospital Group (CHG), a majority entity operating five hospitals in South African with 682 registered beds.

8. Outlook

This section will detail the nature of public-private partnerships and how such organizations can be used to benefit the developing world.

Worldwide PPP projects have been developed successfully in many different social areas: from producing drinking water to building up schools. PPP's have even been quite useful in meeting overall health care needs; moreover, they have been especially effective in the hospital sector.

In industrial countries, PPP projects have paved the way to implement valuable, necessary services that would have otherwise been too large of a cost burden. These partnerships commit themselves to work together for long periods of time and achieve great results. In every case, it is decided early on which partner is more competent to assess the risks and cope with them. This strategy is done deliberately so each partner can bring their own strength and expertise to the partnership. Though the basic conditions are given upfront; there are still many possibilities to alter the contract as to best meet the needs of the partnership. Every project has its own profile, none is equal in detail, and the agreements can often be very complex. The reason for these conditions is that the partnership mostly is defined for a long period (i.e. forty to fifty years). Thus it is almost impossible to copy the structures and contracts of an existing project. Individual circumstances of a particular region and the purpose of the project always must be considered but the frame concept always stays the same. In other words, modification is necessary for each new proposal though the general construct for a PPP is not altered.

As it relates to the emerging markets and developing countries, there are many different ways of developing PPP projects. One example is the hospital of Lesotho, it is classic PPP example, and it modeled its public-private partnership in a similar fashion to that of an industrialized country. As described in chapter 5, the conditions are not so strict because developmental aid funds generally allow nation-building non-profits to also become involved in the partnership. Again in such cases, the whole process must still be configured differently. This added twist involving non-profits slightly shifts the meaning of a public-private partnership in some parts of the world.



It would be impossible to surmise which parts of a PPP variation would be adapted for clinical genetic services. It depends heavily on the individual situation of the country, region, scope of the project and the involved private partner/s. Many factors and details would clearly have to be checked to find an optimized combination that best meets the PPP's needs. Sadly, there can't be a specialized theoretical construct because there is no experiential data for PPP's in developing countries regarding genetic diagnostics. In order to generate more background information to develop such a useful structure, project reports and pilot-projects would also be necessary.

It is really important to create a virtual project which visualizes the situation and gives the partners an idea of possibilities to maneuver. A virtual project allows one to collect data and design a PPP project and provide an informative basis without involving grand resources. This is important because such resources could be destroyed if the real project failed. Therefore it is necessary to bring all relevant information of the countries situation together in a virtual project format. Information about health care, the patients groups, and all other parameters that are connected to the field of clinical genetic services must be collected. Additionally, market analysis could account the economic aspect of the project because that also cannot be neglected in public-private partnership.

The decision-making can be supported by following information:

- Number and character of the relevant disease
- Profile of the concerned patient group
- Situation of the concerned patient group (i.e. state of insurance, income, etc.)
- Current laboratory propensities (i.e. staff/human resources, equipment, etc.)
- The existence of other competence-centers (i.e. private or public)
- Allocation of other centers

Only after having this information does it become possible to estimate the attractiveness for private companies to invest in this market. This information could also demonstrate that the non-classical PPP/ NGO hybrid model works best to fulfill development aid requirements as opposed to the classical PPP definition. Nonetheless, a classical PPP in its primary form requires quite a strong market to function ap-

propriately. Companies must be all set to accept a partnership with public constitution for many years and to bear the financial risk of the mutual project. In the beginning of the partnership, high investments of the private partner need to be made and profits often only come after a longer term. Insecure and unstable markets can increase risk and the length of time needed to make sustainable profits.

If the above requirements cannot be complied then a region that also meets the criteria of developing aid can still benefit from the second PPP variation. After a preliminary estimation of the model-region, and the creation of a theoretical project concept, the idea should be discussed with responsible people of different governmental institutions that supply necessary development assistance to emerging regions of the world. Particularly, institutions that have sophisticated databases with updated contact information from companies looking to help in national-building projects. This would make it easier to find appropriate partners and allow the project to move into the next phase.

9. Conclusion

Again, there is no standard definition of a public-private partnership that has a global validity. Each PPP will vary greatly country to country. However, the interpretation regarding the economic sector can deviate significantly depending on which PPP approach is chosen, and the particular situation in general. The basic collaboration between public and private companies is constant and always has the goal to utilize the strength of both sides. It is in this way that the PPP creates a win-win-situation and results in both parties profiting. Moreover, the population should also receive a benefit or in this case: a better health care supply.

Before this model can be transferred to clinical genetic services there must be more information and experiences prevalent. Pertinent municipalities equipped with a developed business plan and good preliminary findings can then search for the right partner to attempt such a project. One thing is for sure, PPP is a popular and successful method to face the low and empty budgets of the municipality and a lot of citizens have benefited from the model.



		PPP purchaser	PPP FM leasing	PPP renting
Basic	Project item	construction/ maintenance of economic commodities	installation/ optimisation of technical equipment or parts	construction/ refurbishment of economic commodities
	length of contract years	= 30	= 30	= 30
	terminability contractual	No perhaps individual operational services are partially terminable	No perhaps individual operational services are partially terminable	No perhaps individual operational services are partially terminable
Tasks of the contractor	design	Yes	Yes	Yes
	construction	Yes	Yes	Yes
	funding	Yes	Yes	Yes
	Ownership of item in the duration of the contract	contractor	contractor	contractor
	operation/ management	Yes	Yes	Yes
	utilisation of item in sense of transference of ownership to the contracting authority after the duration of the contract	Yes	Yes Yes if purchase option is utilised	No Yes if purchase option is utilised
Tasks of the contracting authority	financial coverage of a) all investment costs	Yes repayments	No partial amortisation Yes complete amortisation	No rent
	b) operator costs, all other opera- tional costs, risk loading, profit margin	Yes	Yes	Yes
	Additional funding for the purchase of the ownership	No	Yes If purchase option is taken, the purchase price is set at the end of the period of contract „calculated rest value“	Yes If purchase option is taken, the purchase price is determined at the time the option is invoked „current market value“



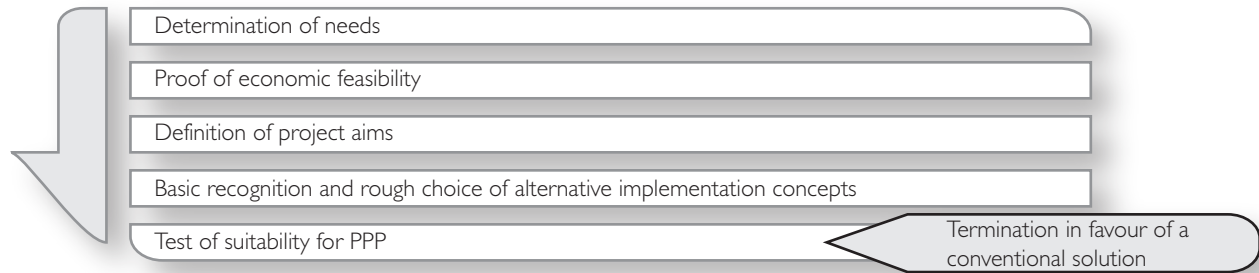
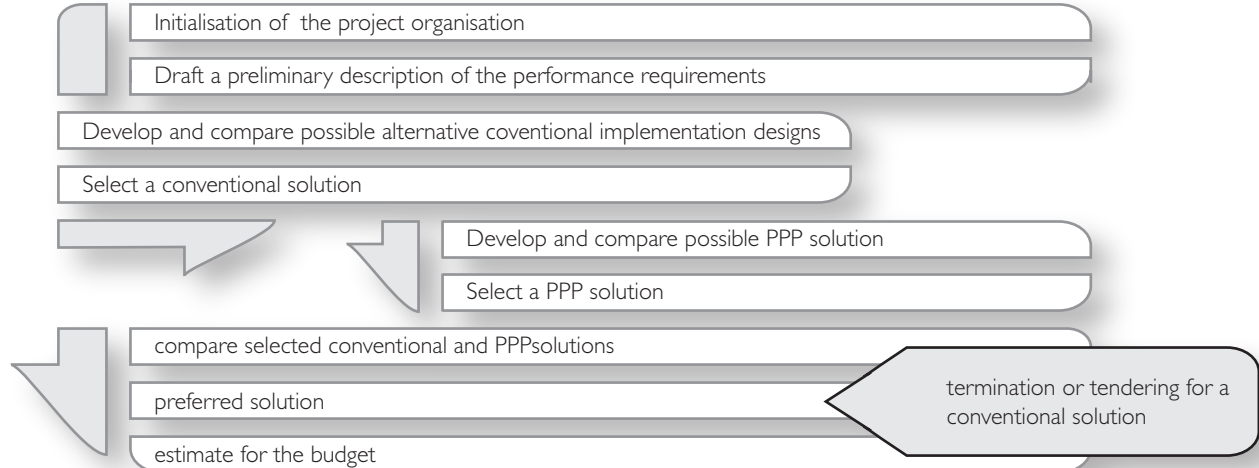
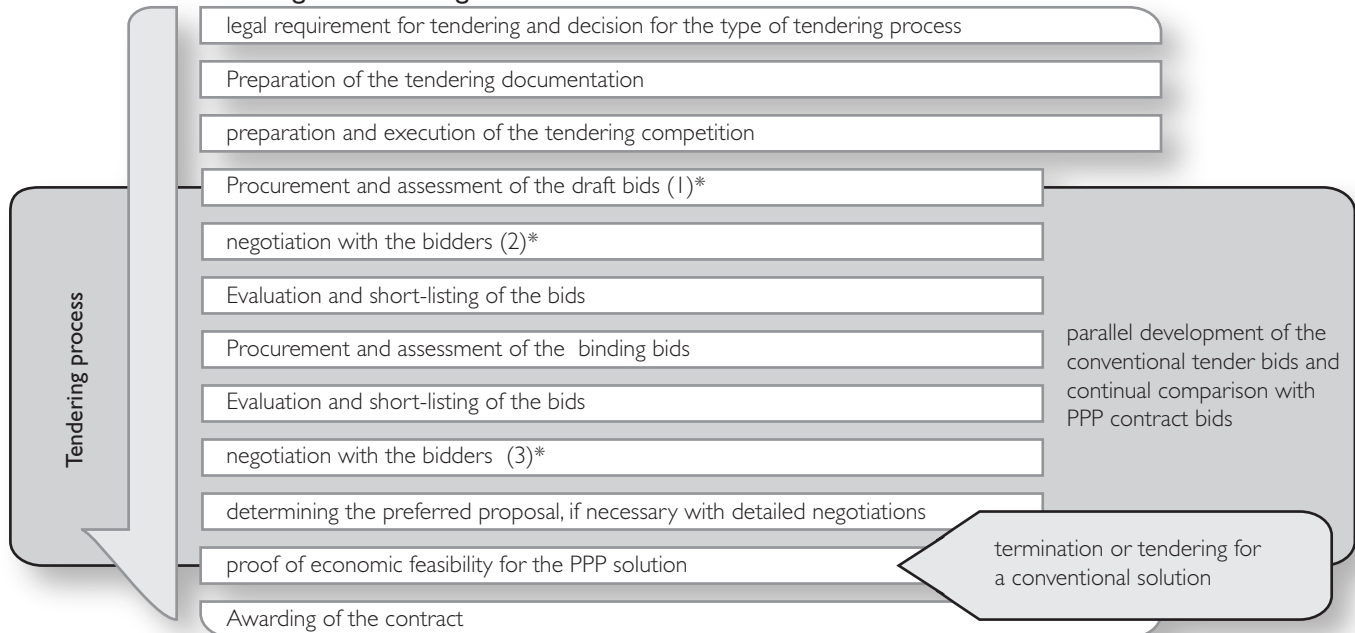
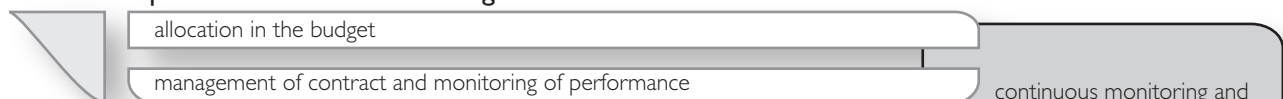
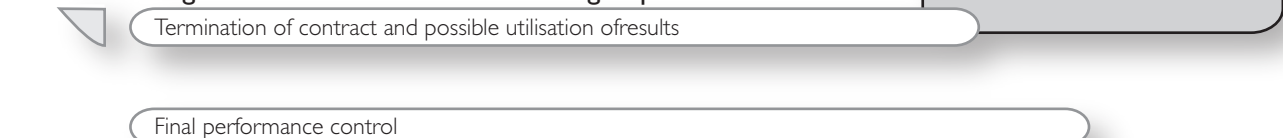
		PPP purchaser	PPP FM leasing	PPP renting
Ownership	Site	contractor or contracting authority	contractor or contracting authority	contractor or contracting authority
	buildings/technical equipment or parts thereof or other economic commodities during the period of contract	contractor Where the contracting authority owns the site in the case of a construction contract, the contractor is a leaseholder	contractor Where the contracting authority owns the site in the case of a construction contract, the contractor is a leaseholder	contractor Where the contracting authority owns the site in the case of a construction contract, the contractor is a leaseholder
	buildings/technical equipment or parts thereof or other economic commodities after the period of contract	contracting authority	contractor contracting authority if a purchase option is invoked	contractor contracting authority if a purchase option is invoked
PPP – typical risk allocation	design risks	contractor	contractor	contractor
	building risks	contractor	contractor	contractor
	funding risks	contractor	contractor	contractor
	material risks and price risks	usual case contracting authority	usual case contracting authority	usual case contractor
	utilisation transfer risks	contracting authority	contracting authority	contractor contracting authority when the option to purchase is invoked



		PPP owner	PPP contractor	PPP concession
Basic	Project item	construction/ maintenance of economic commodities	installation/ optimisation of technical equipment or parts	construction/ refurbishment of economic commodities
	length of contract years	= 20 more if necessary	= 15	= 30
	terminability contractual	No perhaps individual operational services are partially terminable	No	No compare with previously mentioned models with the exception of the PPP-contractor model
Tasks of the contractor	design	Yes	Yes	Yes
	construction	Yes	Yes	Yes
	funding	Yes	Yes	Yes
	Ownership of item in the duration of the contract	contracting authority	contracting authority	contractor/ contracting author- ity compare with previously mentio- ned models with the exception of the PPP-contractor model
	operation/ management	Yes	Yes	Yes
	utilisation of item in sense of transference of ownership to the contracting authority after the duration of the contract	Yes either already during the construction or through the contracting authority's ownership of the site or through a contractual transfer of ownership	Yes either already during the construction or through the contrac- ting authority's own- ership of the site or through a contractual transfer of ownership	Yes/No compare with pre- viously mentioned models with the ex- ception of the PPP-contractor model
Tasks of the contracting authority	financial coverage of a) all investment costs	Yes payment	Yes however through savings in energy costs; poten- tially extra payments by the contracting authority	Yes however through user payments; possibly ini- tial funding / final pay- ment from contracting authority
	b) operator costs, all other opera- tional costs, risk loading, profit margin	Yes		Yes however through user payments and fees
	Additional funding for the purchase of the ownership	No normal case	No normal case	Yes/No compare with pre- viously mentioned models with the ex- ception of the PPP-contractor model



		PPP owner	PPP contractor	PPP consession
Ownership	Site	contracting authority	contracting authority	contractor/ contracting authority compare with previously mentioned models with the exception of the PPP-contractor model
	buildings/technical equipment or parts thereof or other economic commodities during the period of contract	contracting authority	contracting authority	contractor/ contracting authority compare with previously mentioned models with the exception of the PPP-contractor model
	buildings/technical equipment or parts thereof or other economic commodities after the period of contract	contracting authority	contracting authority	contractor/ contracting authority compare with previously mentioned models with the exception of the PPP-contractor model
PPP – typical risk allocation	design risks	contractor	contractor	contractor
	building risks	contractor	contractor	contractor
	funding risks	contractor	contractor	contractor
	material risks and price risks	usual case contracting authority	usual case contracting authority	contractor or contracting authority
	utilisation transfer risks	contracting authority	contracting authority	compare with previously mentioned models with the exception of the PPP-contractor model

**Phase 1: Feasibility Study – Requirement needs and the identification of implementation measures****Phase 2: preliminary preparations and conception****Phase 3: tendering and awarding contracts****Phase 4: implementation and monitoring of contracts****Phase 5: management of contract and monitoring of performance**

*1-3 in the competitive dialogue:

1 = proposal of solution, 2 = discussion phase, 3 = not allowed