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**Financing Public Infrastructure
with Alternative Financing Models**

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1. Introduction

Finding the most appropriate financing schemes for public infrastructure is a big problem in nearly all developed countries, whereas the situation in less developed countries is much more severe. Urbanisation facts and figures¹ demonstrate quite clear the urgent need for infrastructure investments in urban and semi-urban areas in order to cope with the growing demand:

- In 2000, 47 % of the world population was living in urban areas. By 2008 more than 50 % and by 2030 it is expected that around 60% of the world's population will live in urban areas.
- It is estimated that currently 750 million of the 1 billion world's poor people are living in cities without adequate shelter and services
- In 1950, just 1 city (New York) worldwide counted more than 10 million inhabitants. In 2000, 19 cities counted more than 10 million inhabitants. 15 cities are located in developing countries. By 2015 around 23 cities will have more than 10 million inhabitants. 19 cities will be in developing countries.

These figures demonstrate that the current and future challenge of city administrations in less developed countries are enormous. At the *International Conference on Finance for Development* in Monterrey, Mexico in 2002 (*Monterrey Conference*), representatives from Economic and Social Commissions from all over the world discussed financial support, measures and instruments they would expect from the developed countries in order to be able to cope with the upcoming challenge.

2. Instruments to finance development

At the *Monterrey Conference* the representatives of *The Economic and Social Commissions for Latin America and the Caribbean, for Africa, for Western Asia, for Asia and Pacific, the United Nations Economic Commission for Europe, The Development Committee, The Economic and Social Council, The Financial Stability Forum, UNDP* and *UNHABITAT* presented their statements. By analysing those statements it became clear that all of them see the solution in the financing debacle not in one single measure / instrument but in a mix of measures / instruments.

The requirements of the less developed representatives can be grouped as the following:

¹ UNHSP/BASICS1/02

Group 1: All representatives see directly or indirectly the exit of the Third World dilemma in:

- the sustainable economic growth
- the better coordination of donors' activities
- the tailor-made assistance for the recipients
- the raise of national local resources

Group 2: Almost all representatives call:

the debt relief and the increase of the commitments of the developed countries as the most import measure in order to allow a "new-start"

- the target number of 0,7 % from GNP, which hardly a country contributes but committed in the Official Development Assistance-Flow (ODA).

Group 3: Some representatives require:

- the stop of international and regional wars and conflict in order to release military – and war funds towards development and construction
- the end of corruption in the public administration
- the introduction of an accountable corporate governance
- the responsibility of each country for its own economic and social development
- the importance of sound national policies and good governance.

The statements show that there is a paradigm change ongoing. More and more governments from less developed countries want to take action and face up to their responsibilities in order to provide the required infrastructure services to their people. The failures from the past are analysed and discussed. Action planes are formulated. . The less developed countries want to be seen as "partners" from the developed countries and are asking for specific development assistance.

In the view of financing the urban development, the less developed countries have their visions and are looking forward to cooperate with developed countries. Financing for development does no longer mean that grants and loans from the donor community countries are the only resources. The approach is changing as (1) external financing is made available through debt swaps and trust funds and (2) internal financing from domestic resources.

The following chapter will explore the requirements mentioned at the *Monterrey Conference* and their implications for the financing urban infrastructure in less developed countries.

2.1 External funding

In this paper the term "external funding" is used in a sense that funding comes from donors or investors from abroad.

In the discussion about external funding to less developed countries, the beneficiary countries find themselves in a difficult situation. Less developed countries are in high demand for external support from developed countries in form of grants for technical assistance and projects. Currently the developed countries are supposed to provide around 0.7% from their GNP in form of ODA. Practically those targets have not been fulfilled during the last years.

Many less developed countries find themselves in highly indebted conditions and loans are hardly or not serviced. Considering the demand for improving the infrastructure conditions substantially in less developed countries, alternative instruments are needed. In the following chapters some models are introduced which can help under certain circumstances to improve the situation in less developed countries substantially.

The financing practices show variations of external funding strategies, besides the regular grants and loans.

2.1.1. Debt Swap

Generally once debts are made; the repayment of the debts has to follow. But in fact many countries are highly indebted and cannot afford the repayment of the debts. Therefore governments from some developed countries offered the borrower countries to transfer the debts for national investments in education, health, environment or infrastructure. An exchange ratio between 1 debt-unit and 1 national-investment-unit needs to be negotiated and defined.

The requirements of the donor countries are generally very demanding that developing countries have big difficulties to benefit from this kind of external funding.

2.1.2. Trust Funds

Governments from developed countries have the possibility to channel budgets to trust funds, which are mostly managed by multilateral banks, like the World Bank, Asian Development Bank, African Development Bank, ... and herewith support the development of certain sectors in developing countries. In general developing countries can apply for trust funds by submitting project proposals to the trust fund. Then the trust fund managers evaluate the proposals and after approval provide funding. The main idea behind the trust fund is to help developing countries to start with initiatives, which are very important for the sector development like capacity building or implementing pilot projects in order to facilitate the process.

2.1.3. Foreign Direct Investments

Foreign direct investments originate mostly from multinational companies (MNC), interested in direct investments in the developing world. The reasons are various. In general the business opportunities are good and governments in less developed countries welcome MNCs.

2.1.4. Private-Sector-Participation

In the developed world, the private sector gained a lot of experience in investing and managing infrastructure installations over the time. In the developed world the benefits for private sector involvement are in general positive. In general a good regulatory system needs

to be in place in order to secure the smooth cooperation between the public and the private sector. The public sector in less developed countries can also benefit from private sector involvement in the same way. The possibilities of the private-sector-participation involvement are numerous. It starts with the possibility of contracting private companies for certain services and leads further to building and operating infrastructure facilities (BOT, BOO, OM, ...) ² or to provide a concession to a private company to run the facility over a certain time.

2.2 Internal funding

In this paper the term “internal funding” refers to the funding coming from national resources.

The analysis of the statements shows, that the internal national funding becomes more and more an issue. It was found out, that the representatives at *Monterrey Conference* mentioned the raising national resources and the implementation of a well operating national banking system, as important issues for financing infrastructure development.

But beside this there are more possibilities to get funding for urban investments.

2.2.1 Taxes

In less developed countries in general tax revenues are very low. In some countries like Indonesia it is not due to the ability of people who cannot afford to pay their taxes, but due to the unwillingness of the people to pay their taxes. Tax arrears are high and therefore community infrastructure installations many times lack proper maintenance. In addition necessary replacement investments are not done. The chairman from the Development Committee Ho. Trevor Manuel claims in his statement: “responsibility of each country for its own economic and social development and the importance of sound national policies and good governance as prerequisites” ³. This claim expresses the necessity of taking the responsibility to implement an economically and socially justified tax collecting systems, which will be supervised by authorities.

Commento [WB1]:

2.2.2. Tariffs

Services from governments to the people come with a certain price and should be subject for payment. In reality, government customers are not satisfied with the services and therefore the willingness to pay for those services is very low. In addition very often there are high losses in the electrical power distribution to the customers due to illegal connections or high non-revenue-water rates in drinking water supply systems. In the field of public services, there is an urgent need for good governance.

The implementation of economically and socially justified tariffs together with principles of good governance would allow infrastructure facilities to run their services on a full cost recovery basis.

² BOT = Built-operate-transfer; BOO = Built-operate-own; OM = Operate-maintain

³ <http://www.un.org/ffd/statements.htm>

2.2.3. National resources

The variation of national resources is numerous. Firstly, credits from national banking institutions. The prerequisite is a well operating banking system, which convinces the population to open saving-accounts. Secondly, in each country are potential investors who bring their money abroad, because they don't have trust in the countries banking system or the origin of the funds is questionable. The implementation of good governance reforms could probable convince them to deposit legal funds in their country. Thirdly, in many developing countries officials and others are paying contribution to pension funds. In order to administrate the pension funds well, the pension fund management is looking for risk-averse investment opportunities. Investments in infrastructure normally seem very appropriate and safe investment, because national and / or local governments are committed and normally provide the revenues of the user fees as collaterals. With a well-qualified management the infrastructure facilities normally could perform very well.

2.2.4. Microfinance

Microfinance is known in the narrow sense as mirco-credit-system for development of economic activities and for building "factories"⁴, which are meant as a place where people produce the products they can sell on the market and where they can live with their families.

In the wider sense, microfinance systems comprise the sectors: micro-credits, micro-savings and micro-insurance. Microfinance has local importance, which means, it works with the population and for the population of a community. The exploration of the wider sense would allow making micro-finance appropriate for financing infrastructure development. Micro-savings have to perform that profits will be made. Local governments could ask micro-finance institutions to provide credits for local infrastructure investments. Public charges or user fees should collateralise the loan in order to minimize the risk for the savers to loose their savings. In the same way it would work for using funds from micro-insurances.

2.3 Alternatives in financing urban infrastructure

In the following alternative traditional models to finance infrastructure will be presented.

By searching for indicators, which could compare developed countries with less developed countries, it was discovered, that during the depression in Europe in the 1930s similar indicators were visible like high unemployment rate, local governments had hardly tax revenues to keep the administrations working and the vision, that economic growth would be the entrance for prosperity. The "Experiment Woergl" demonstrates how the city of Woergl, Austria, Europe in 1932 -1933 found a path out of the economically disastrous situation.

⁴ M. Yunus, A Jolis. 2003, *Banker of the Poor: The story of the Grameen Bank*, Aurum, London, p.241

By searching for financing models on the international level it was discovered that in Indonesia there are the system of “Uang Kepeng” and the system of “Arisan”, which can provide internal funding for urban development investments.

2.3.1 “Experiment Woergl” (1932 – 1933)

The presentation of the experiment run in the town of Woergl in the Austrian Alps will demonstrate how the city administration of Woergl tried to escape the impact of the economic depression in the early 1930’s.

Besides the indicators mentioned above, Woergl was faced to a very low velocity of money circulation and a high rate of withdrawals from deposit accounts in local banks. The local administration was almost in the state of emergency. The mayor trained as a social democrat and union official was searching for ways to exit this situation. Consulting “The natural Economic Order”⁵ by Silvio Gesell, he got the idea of stamped money (scrip). A welfare committee was installed. Entrepreneurs, farmers, housewives, politicians and railway officials⁶ were called as members. The welfare committee elaborated a distress relief programme, which was then implemented by the local government. The relief programme was fixed on the velocity of money circulation. The programme was to issue some how stamped money⁷ called “Certificate Compensation Bills” in order to make money stocking unattractive. The scrip was parallel exchanges unite on the market besides the official currency “the Shilling”.

The Welfare Committee issued the “Certifies Compensation Bills” (in German language: Arbeitswertscheine). The town administration purchased the lot and paid the Shilling currency value to a bank account at the local savings bank. The town administration made sure, that the scrip was accepted as value for money. The city employees received 50 % of their salary in scrip and the new emergency employed were to be paid to 100 % in scrip.

The observation was made that nobody was interested in keeping the scrip too long in ones hand. People made the bills circulating, paid their taxes and used money for daily purchases. At the beginning some of the business people hesitated to accept the stamped money, but then due to the local competition it was accepted all over the town except at the national railways and at the national post office. The scrip also could be changed in to Shillings but with a 2 % damage of redemption rate.

The value of the stamps the holders of the bills have to stick by the end of each month was used to for the local welfare. The “Certified compensation bills” made Woergl to a flourishing town during the period of economic depression in the country and region. The economy recovered, the administration got the taxes paid and compensated the people’s contributions with infrastructure investments like new roads, new sewerage service lines, new bridges, street lightening and a ski jumping installation.

⁵ F. Seiffert, 2003, S. Gesell: Natuerliche Wirtschaftsordnung, www.geldreform.de

⁶ Woergl was and is still an important junction of railways from East to West and from North to South

⁷ Stamped money, because the holder who had the “Certified compensation bill” in possession at the end of the month had to stick a stamp in the value of 1 % of the nominal value of the bill. It was in the possessor’s interest to keep the bill updated, because otherwise it was not value for money.

Economists at that time made Woergl to a Mekka of Economic studies, but the Austrian Central Bank called down the experiment in 1933. Therefore the scientific interest disappeared in Europe over some decades. In the United States Irving Fisher⁸ was searching for the key point for the juncture of economic difficulties and found the scrip idea widely spread in the USA. In his “Stamp Scrip” (1933) he analyses the experiment of Woergl and the American approaches and he found out, that the Woergl experiment was the most successful one. The factor of success was, the principle that the Certified Compensation Bills “was meant to be a stable money, to be kept at a constant purchasing value without either inflation or deflation and that the demurrage was meant only to keep it in circulation when interest was too low to do it”⁹.

The reason, why the success story did not find more appreciation in science is due to the very special political situation of Woergl: a social democratic town in a conservative-coloured province, with no special lobby at Austrian universities and at the Austrian Central Bank. Therefore the experiment Woergl had little floor to present the success at that time.

2.3.2 Model: Uang Kepeng

The *Uang Kepeng* is based on a system of reciprocal exchange through collective work and places high recognition on the community interest above the individual interest.

Historically the *Uang Kepeng* (coin) is part of the Balinese culture since more than one thousand years. Until early 1970s *Uang Kepeng* was recognised as a medium of exchange in Bali economy and was touching all aspects of life, such as religious, political, social-cultural, and economic. Nowadays the *Uang Kepeng* is merely used as a cultural heritage in the arts and religion.

Stephen DeMeulenaere has been searching on *Uang Kepeng* and has published the paper: “Revaluing *Uang Kepeng* as a Medium of Local Exchange in Bali”¹⁰ where he describes the success of *Uang Kepeng* on local community level (*Banjar*).

“... For more than 1,100 years *Uang Kepeng* was the monetary system of the *Banjar* government and through participatory democratic methods contributed to the flourishing of Balinese culture. Fines and taxes were paid in *Kepengs*, which went towards collectively determined and budgeted projects; both in Time and *Uang Kepeng*, and the contributions of both were either carried out by agreement, or recorded to ensure that each person paid their agreed –upon share. When *Uang Kepeng* fell from use in the early 1970s, community projects were collectively budgeted in the two currencies of time and national currency, as it is done to this day.

However, lacking a local medium of exchange which they control, *Banjar* governments today are very limited in what they are able to carry out. Their scope is now limited almost solely to cultural and religious activities, to small-scale local development projects where funds are

⁸ Irving Fisher, LL.D., Professor of Economics, Yale University

⁹ H. Eisenkolb, 2003, *The story of Woergl*, www.sunshinecable.com/~eisehan/woergl.htm

¹⁰ S. DeMeulenaere, 2004, *Revaluing Uang Kepeng as a Medium of Local Exchange in Bali*, (http://www.appropriate-economics.org/materials/Uang_Kepeng_-_Complementary_Currency_in_Bali.pdf)

contributed by *Banjar* members, to raising funds through “night bazaars” and to assisting the local level of the Indonesian government in implementing its programs.

Re-issuing *Uang Kepeng* would strengthen local self-sufficiency and in this way improve the local government’s ability to implement local development programs. This would lead to improved quality of life, and the revitalisation of Balinese culture....”

2.3.3. Model: Arisan

Arisan, was developed through informal meetings amongst women in neighbourhood units with the purpose to support household finances, especially among the low and middle social strata. In general *Arisan* has the characteristics of being a cooperative and solidarity club. Nowadays *Arisan* is not restricted only to women or take place in neighbourhood units. *Arisan* is also practised within companies and even in gentlemen’s associations.

Arisan is a traditional informal rotating credit-group and works as following: Members are meeting regularly, for example once a week or a month; depending on the agreement of the members. They determine the contribution for their collective fund. In each meeting one member through a lottery system gets a certain amount, which is called “one round”, and so forth until all members have their turn.

Arisan gets increasingly importance as a model for local public investments because the purpose of *Arisan* is not fixed on collecting money for savings in households, but also to renovate a village road in the neighbourhood unit or to build a public toilet for example. If local public investments are in the interest of *Arisan* members the contribution will not be money but commodities like building and construction material, if e.g. the target is to construct a trench for waste-water or a garbage disposal installation.

The example of the Kesuma Programme shows, that if *Arisan* changes its legal form from an informal to a formal organisation and will get officially registered respectively, then the *Arisan* group gets the position to act as a cooperative for setting up savings accounts and get recognised as a legal community development organisation, which is allowed to apply for funding from donor agencies.

The Kesuma Programme was set-up with an *Arisan* group in a poor urban community in Jakarta in 1999. A system of revolving funds was introduced. Some women in the neighbourhood unit were entitled to borrow a certain amount of money for definite months. They borrowed either for her enterprise, which was usually a cooked-food trade, or for medical and educational needs. The book-keeping system was simple. Interest rates were set at the commercial rate of 18 per cent per annum with additional charges for community welfare and obligatory savings. Within 11 months the micro-credit and savings group reached out to 300 women, which equals to 1.500 people including their family members. The outcomes are the following: a monthly health clinic, seven libraries, and neighbourhood re-greening. All those have been achieved through mutual support, cooperation, hard work, and self-initiatives.

An important spin-off of *Arisan* activities is the empowerment of women to get a voice in local development discussion.

3 Conclusions

Many developing countries got over the time enough self-confidence in order to overcome difficulties and to take responsibility in their own economic and social development. Therefore they started to negotiate with representatives from the developed world their national paces and their visions of the country's development.

The relation between less developed and developed countries was and still is tight on support and loans. In the current situation the developing countries are highly indebted and are looking for solutions, which would allow them to become partners and to leave their position of petitioners and paupers.

The paper shows some of the possibilities of getting foreign and domestic funding. The chapter "External funding" focuses on financing instruments, which not necessarily lead to an increase in national debit rates. The chapter "Internal funding" presents possibilities of local and national governments to establish sources for getting more independence and autonomy in their investment decisions.

The paper also presents alternative models for financing development, which can be seen as best practices of rise of economic activities. One best practice demonstrates "Experiment Woergl", which took place in 1932 -1933 when Europe went through a big economic depression. The town of Woergl, Austria, Europe demonstrated at that time how to escape the economical and social malaise and to bring up their economy.

Two best practices are presented from Indonesia. Firstly the "Uang Kepeng" model, which has a long tradition in Bali. Until 1970 it was an active part of the Balinese economy. Since 1970 it has become a cultural relict, but its former success brings the "Uang Kepeng" model back in to the economic discussion on local government level. Secondly the "Arisan" model, which demonstrates that little inputs can make considerable investments in urban development possible.

The statements from the representatives at the International Conference on Finance for Development in Monterrey 2002, make it clear that the developing countries are ready to take the challenge but asking for assistance in finding the most appropriate mix for financing their infrastructure development.

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