

Development Financing for Tangible Results: A Paradigm Shift to Impact Investing and Outcome Models

The Case of Sanitation in Asia



Discussion Paper

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Acronyms

ADB	Asian Development Bank
AMF	Ascending Markets Financial Guarantee Corporation
CIC	Community Interest Company
CSR	Corporate Social Responsibility
DIB	Development Impact Bond
GAVI	Global Alliance on Vaccines and Immunizations
GDP	Gross Domestic Product
GHG	Greenhouse Gas
IFFIm	International Finance Facility for Immunisation
IRS	Internal Revenue Service (USA)
JMP	Joint Monitoring Programme (WHO/UNICEF)
L3C	Low-Profit Limited-Liability Company
LLC	Limited-Liability Company
MDG	Millennium Development Goal
MRI	Mission-Related Investment
NGO	Non-Governmental Organization
O&M	Operations and Maintenance
OBA	Output-Based Aid
ODA	Overseas Development Assistance
OECD	Organisation for Economic Cooperation and Development
ODF	Open Defecation Free
PPP	Public-Private Partnership
PRI	Program-Related Investment
PSP	Private Sector Participation
SELLP	Social Enterprise Limited-Liability Partnership
SIB	Social Impact Bond
SYON	Social Yield Option Note
TEEB	The Economics of Ecosystems & Biodiversity
UK	United Kingdom of Great Britain and Northern Ireland
UNICEF	United Nations Children's Fund
USA	United States of America
USD	United States Dollar
WASH	Water, Sanitation and Hygiene
WBCSD	World Business Council for Sustainable Development
WHO	World Health Organization
WSFF	World Sanitation Financing Facility
WSP	Water and Sanitation Program (World Bank)
WSSCC	Water Supply and Sanitation Collaborative Council

Discussion Paper

DEVELOPMENT FINANCING FOR TANGIBLE RESULTS: A PARADIGM SHIFT TO IMPACT INVESTING AND OUTCOME MODELS

The Case of Sanitation in Asia

United Nations Economic and Social Commission
for Asian and the Pacific (UNESCAP)

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With Impact Investing now reaching the G8 agenda and the engagement of JPM Morgan and Rockefeller Foundation amongst others in leading roles. We note the role Ashoka played in impact investing's initial stages – specifically the thought leadership of Bill Drayton and the dedication of the various Ashoka SFS team members. In this context special thanks to the initial funders of what was then just a vision in 2005 – namely Herschel Post and Alexandra Christie of the Woodcock Foundation and Nancy Barrand of the Robert Wood Johnson Foundation.

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Foreword

Household water security is a basic requirement of life. More than being simple basic needs, water and sanitation services are recognized as crucial elements that otherwise would put other development investments and public health at risk.

Asia and the Pacific as a whole is an early achiever for halving the proportion of people without access to safe drinking water, but not however, sanitation. Most of the Asia-Pacific countries will not come close to achieve the MDG target on access to improved sanitation.

This study on innovative sanitation financing recognizes the challenge facing the region, to halve the proportion of the population without access to sanitation by 2015. The study proposes a “paradigm shift” to outcome models, recognizing that sanitation not only remains a focus of international development targets but is also linked to many other development issues such as health, environment, education, gender, disability, tourism and economic growth. This study proposes the inclusion of the private sector in a value proposition, with everyone in society benefiting from improved sanitation, and generating the willingness to pay for these services.

It is with great pleasure that ESCAP published this discussion paper, targeted for discussions at the Second Asia-Pacific Water Forum (ZAPWS), in Chiang Mai, May 2013, to provide background materials for the discussions at both the Technical workshops and the Focus Area Sessions.



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Discussion Paper

Development Financing for Tangible Results: A Paradigm Shift to Impact Investing and Outcome Models

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Executive Summary

The changing development landscape. The landscape of overseas development assistance (ODA) is expected to change over the coming decades as the aid budgets of traditional donors are predicted to decline due to tighter public budgets and aging populations. To meet universal sanitation coverage, current funding gaps in sanitation cannot be met from public sources alone. This requires greater involvement of the private sector in financing and delivering sanitation services.

The traditional “input” model of program financing cannot provide the framework for private sector engagement since it is not focused on optimizing social outcomes from investment in sanitation services. Traditionally, the government, corporate and civil society sectors try to build the whole value chain within their silos and they do not collaborate in financing or delivering sanitation systems, which results in fragmentation and inefficiency. “Business-as-usual,” therefore, no longer work for sanitation. What are needed are multi-stakeholder collaborative partnerships to move large-scale capital into social investment. Many reports focus on the “what” and “why” rather than on the “how” and, critically, on the “who.”

This report focuses primarily on the “how” and the “who” with the belief that capturing innovation and ownership of the community and the civil society, together with United Nations agencies and development banks, can mobilize the scaling and expertise of the corporate sector. The innovations in “impact” investing, social entrepreneurship, technology, civil society and legal frameworks in the last 10 years provide the opportunity to realign the incentives for collaboration and scale. This report identifies a number of opportunities to engage large-scale capital pools that should be tapped to address the global sanitation issue.

In 2011, the Asian Development Bank made a call for a “Revolution in Water and Sanitation”. Aptly, the solution to the many development issues is not easy to achieve without trade-offs. If action is not taken, the problems remain and the next generation will be left with exactly what the United Nations High Level Panel on Global Sustainability recently stated – “The current global development model is unsustainable. We can no longer assume that our collective actions will not trigger tipping points as environmental thresholds are breached, risking irreversible damage to both ecosystems and human communities. At the same time, such thresholds should not be used to impose arbitrary growth ceilings on developing countries seeking to lift their people out of poverty. Indeed, if we fail to resolve the sustainable development dilemma, we run the risk of condemning up to 3 billion members of our human family to a life of endemic poverty. Neither of these outcomes is acceptable, and we must find a new way forward.”

For this reason, the Panel argues that the international community needs what some have called “a new political economy” for sustainable development. This means that there is a need

to “radically improve the interface between environmental science and policy; recognizing that in certain environmental domains, such as climate change, there is ‘market failure’, which requires both regulation and what the economists would recognize as the pricing of ‘environmental externalities’, while making explicit the economic, social and environmental costs of action and inaction; recognizing the importance of innovation, new technologies, international cooperation and investments responding to these problems and generating further prosperity.” The Panel challenges governments and international institutions to work together in solving common problems and advancing shared interests. Quantum change is possible when willing actors join hands in looking forward to a sustainable future.

Why sanitation? As a development issue, sanitation offers several significant, but largely unexploited, advantages to provide a testing ground for new and innovative development models. It remains a focus of international development targets and is linked to many other development issues such as health, environment, education, gender, disability, tourism and economic growth. Sanitation is predicted to gain increasing support from public stakeholders. Building the enabling environment (policies, knowledge, etc.) for sanitation is increasingly becoming the focus in both international and national circles. At the same time, the potential business opportunities in sanitation are significant. The entry of the private sector into the sanitation space is one of the current significant but unexploited investment opportunities that are gaining momentum.

The opportunity. The decade has seen an increase in a number of innovative solutions for development issues. The majority of these solutions are driven by civil society. Evidence shows the trend in increased visibility of social entrepreneurship and the growth of a financing trend called impact investing. Many of these innovations are implemented in isolation, but together, they offer great opportunities. The challenge, at present, lies in identifying how to scale-up these innovation models. The creation of collaborative partnerships, specifically focusing on outcomes with real social impact is another area gaining momentum. For the innovation strategies to work, stakeholders need to clearly understand where infrastructure, innovation and core skills can be applied to have the greatest effect. Stakeholders also need to establish an incentive structure based on the delivery of tangible social outcomes. Sectors need to work collaboratively rather than in their own “silos” of development.

These solutions and other innovations can be captured under a mnemonic called “COILED” (**C**apital, **O**utcome, **I**ntermediary, **L**egal, **E**ntrepreneurship and **D**istribution). COILED identifies the new Capital market tools for development based on achieving real tangible Outcomes, structured by Intermediaries with the skill to apply the new financial innovation to the needs of “blended” capital sources, where the social mission is Legally built-in in its engagement with the

commercial sector so there is no fundamental contradiction between doing good and making profits. The incentives and dynamism of local Entrepreneurship applied to social solutions can be delivered in scale through new Distribution mechanisms, which are enabled in many cases by new technology, civil society or new collaborative hybrids.

Sanitation's value proposition. To engage the private sector, whether in traditional or impact investing, a value proposition is needed. This is most easily summarized by cost curves. Sanitation is a service that has a range of private, social and environmental benefits. With everyone in society benefiting from improved sanitation, willingness to pay for these services can be generated. For policy and investment decisions on sanitation, key players, including governments, investors, private sector providers and the social sector, will need to understand three things:

- 1 They must know the size of the potential market, to understand the size of the challenge and the opportunity.
- 2 They must understand the value at stake in closing the sanitation gap and fulfilling the present or latent market need.
- 3 They must recognize the importance of cross-sectoral collaboration of all stakeholders to make it work.

The cost curve process allows the identification of the C, O and E of the COILED paradigm, whilst I, L, D is the critical facilitating process – in essence the same process as one would view the issue in a commercial environment. In this model entrepreneurial innovation is linked to the capital (Capital Market Innovation, Outcome Focus and Entrepreneurship) market tools and the outcomes it creates on a standardized modular framework that identifies both social and financial outcomes focused on business drivers. These business drivers, or business lines, in sanitation are as follows:

- Municipal financing
- Housing/mortgage financing
- Entrepreneurs/private sector
- Consumables and corporate engagement
- Public toilets
- Energy
- Fertilizer
- Carbon market

Cutting across these business lines are the cost savings and wider economic benefits associated with improved sanitation facilities. Three cost curves capture these business lines. These cost curves include:

- 1 the current market and market potential,
- 2 the market under a scenario in which the social externalities are captured; and
- 3 the market at scale.

A key element linked to these three cost curves is the mapping of business lines to financing options. On the basis of the market and value potentials in all three cost curves, organizations must assess which providers and financing mechanisms would best suit the delivery of these sanitation services.

Financing structures. The application of impact investing and commercial techniques brings new challenges and the need for a fresh approach to the intermediary structure. For this to work, evidence shows the need for four critical players:

- An entrepreneur who has the vision and drive to apply a vision of how business solutions can be applied to a social objective.
- A social sector intermediary who has credibility in the sector and the ability, through its brand and distribution network, to ultimately scale-up a series of impact investing solutions in support of their own mission.
- A social finance intermediary that would blend different sources of capital – governmental, venture, investment banking, grant and social capital. A social finance entity that understands the entire social capital arc is required.
- Profit partners, driven by either corporate social responsibility or a desire to develop new bottom-of-the-pyramid models, or hybrid organizations that possess the ability to inject scale, expertise and capital.

Intra- and inter-sectoral collaboration cannot be achieved by goodwill and innovation alone. Auditing mechanisms are important components as well in development financing. As in any other sector, the independence of the auditor is fundamental. The role of the auditor is very essential in an outcome model because contingent cash flows will ride on their judgments. For this reason, the key metrics (performance indicators) need to be defined and indeed reinforced by community feedback mechanisms.

Financial Innovation facilitating Collaboration – The Social Yield Option Note. The Social Yield Option Note (SYON) is a proposed impact investing structure that is the next stop on from a Social impact bond or Development impact bond in that it is a mechanism that can be applied to any development issue. This is a mechanism that facilitates a replicable outcome model – which allows effective multi-stakeholder collaboration where value is defined by the systemic achievement of a tangible, auditable social outcome. It works in the same way as a foundation with capital allocated bilaterally in a non-repayable grant for social purpose. This structured

approach creates a financial product that gives different returns to different players with a social mission. It has built-in regulation and can be easily replicated. The SYON essentially combines the contingent return model of a social impact bond with the legal flexibility of the low-profit limited-liability company in an established capital market structure. This new financial instrument allows participants with different financial return expectations to participate in the same vehicle, one that can ultimately be tradable, creating a liquid secondary market for social value.

The outcome-based financing model and the broader Impact investing paradigm, offer impact investing several advantages, such as leveraging of investment funds for social purpose, injecting the discipline and opportunities of the marketplace and internalizing the social benefits into the system of incentives and contractual arrangements. Given that the outcome-based financing model has had few applications to date, its implementation in the field of sanitation needs to be prudently examined. The promotion of this mechanism depends on the initial findings at the earlier stage of implementing the model. It also depends on the interaction of the main stakeholders. At present, there is no single mechanism that is being promoted. In most contexts, it is important that a major public player such as a multilateral development bank or an influential bilateral donor agency with international reputation is involved. The involvement of social intermediaries in the implementation of the outcome-based mechanism is fundamental to the success of such a scheme. As is hardwiring the social mission and purpose. Initial pilot testing of the approach is important before a widespread application of outcome-based financing becomes possible.

1

Why “business-as-usual” is not working for development financing

This chapter examines the current development financing model which is plagued by a number of difficulties, which are expected to intensify over the next 20-30 years if not systematically addressed. Given the protracted economic crisis that has its roots in the sub-prime mortgage crisis in the USA in 2008, financing for overseas development assistance (ODA) will continue to face cuts. It is likely that financing available for sanitation initiatives will also be impacted. This chapter takes a step back from the current economic crisis and suggests that the ODA expenditure faces other threats by examining other drivers of economic growth and ODA.

1.1 Traditional development funding dilemma

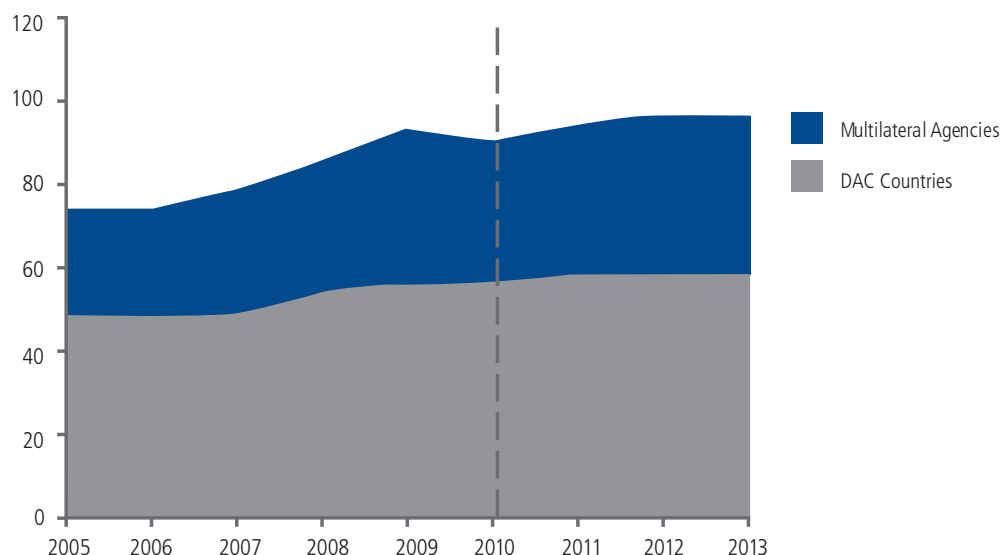
Several factors are expected to change the development funding landscape over the decades to come. Some of these determinants are, in fact, engendering variable impacts at various scales. The economic crisis that hit developed economies in the last 5 years has significantly threatened development financing in many parts of the world. In 2012, the pressure became more tangible when financial instability in the debt-ridden European Union economies caused the Euro to considerably fluctuate.

The economic crisis has realigned the global economy, with the gross domestic product (GDP) per capita growth in Organisation for Economic Cooperation and Development (OECD) countries remaining low at 1 to 2 per cent. The GDP per capita of developing countries, on the other hand, continues to rise¹. While the crisis has not yet played itself out, it is safe to assume that it may likely lead to a major impact on what developed countries are willing and able to spend on foreign aid.

When public budgets tighten, decision makers tend to prioritize domestic spending over budget allocation on overseas development assistance (ODA) Figure 1 shows how foreign aid from OECD countries has leveled since 2009 Reports, however, have shown that some donor countries such as the United Kingdom of Great Britain and Northern Ireland (UK) and the United States of America (USA) have strived to protect their aid budgets.² Nonetheless, the future ODA commitments of OECD governments remain highly uncertain.

1 OECD countries recorded an average growth of 0.77 per cent in GDP per capita in 2011, whereas low- and middle-income countries recorded an average growth of 5 per cent in GDP per capita in the same year (World Bank, 2012).

2 Information are generated from: Mulholland, H and P Wintour. 2012. “David Cameron Defends Overseas Aid Budget during Recession.” *The Guardian*, August 10. Cornwell, S. 2011. “U.S. Foreign Aid Escapes Slashing Cuts in Fiscal 2012.” Reuters News Agency, December 19.

Figure 1. Country programmable aid: actual (until 2010) and planned (after 2010) (in USD billion).

Notes: Copied from OECD (2011); DAC – Development Assistance Committee

The retrenchment in philanthropic funding mirrored in the private sector is another factor that has impacted development financing. Figure 2 shows the temporal trends of philanthropic aid from the USA in the last four decades. It presents how the economic crisis after 2005 has impacted the trend.

The current observed patterns should be compared to perceived long-term trends, which is expected to result in the largest transfer of wealth in human history, estimated to be around USD 41 trillion by 2050 in the USA alone (Havens and Schervish 1999).³ Of this wealth transfer, 60 per cent will originate from 3 per cent of the population. These figures may even be underestimates, as the philosophy of living philanthropists⁴ is to give everything in their lifetime. This partly explains the attention that private financial institutions such as UBS,⁵ JP Morgan, Morgan Stanley, Credit Suisse and Merrill Lynch devote to philanthropic funding. Further, this shows that under the current financing framework for social sector entities looking to be funded, the largest will not be substantive since it is over a forty year period. This clearly means that all the money will not be allocated to social good and that only 5% will traditionally be allocated by the foundation system in any given year. Effectively this means that only \$5–\$10bn in additional grant funding will actually be allocated annually in real terms.

³ Boston College reviewed the US\$ 41 trillion estimates in 2003 and considered it to still be valid.

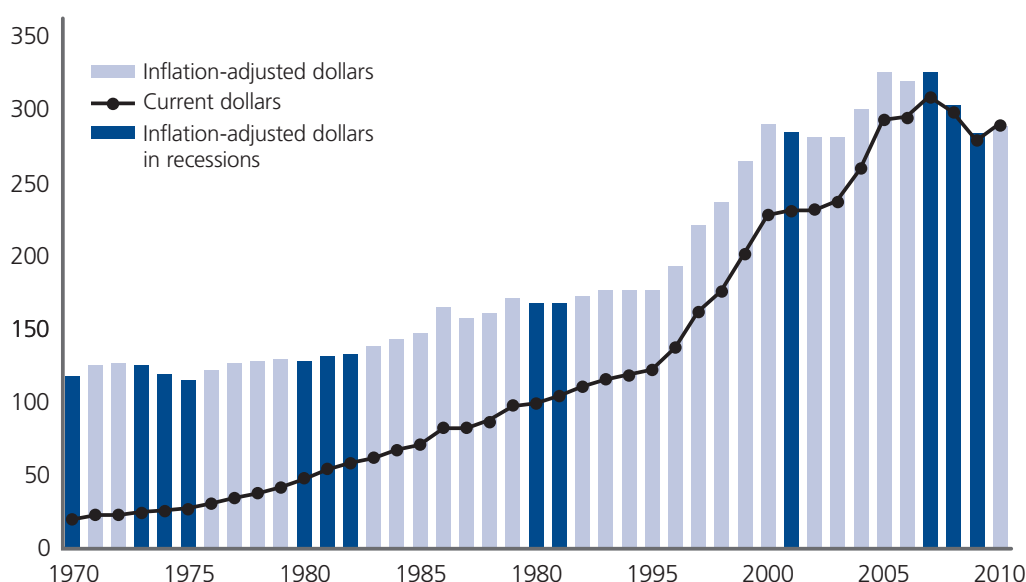
⁴ Some of these living philanthropists include Bill Gates, Warren Buffet, Jeff Skoll and Pierre Omidyar.

⁵ The name “UBS” was originally an abbreviation for the Union Bank of Switzerland, but it ceased to be a representational abbreviation after the bank’s 1998 merger with Swiss Bank Corporation.

Figure 2. Philanthropic trends in the USA from 1970 to 2010 (USD billion).

Total giving, 1970-2010

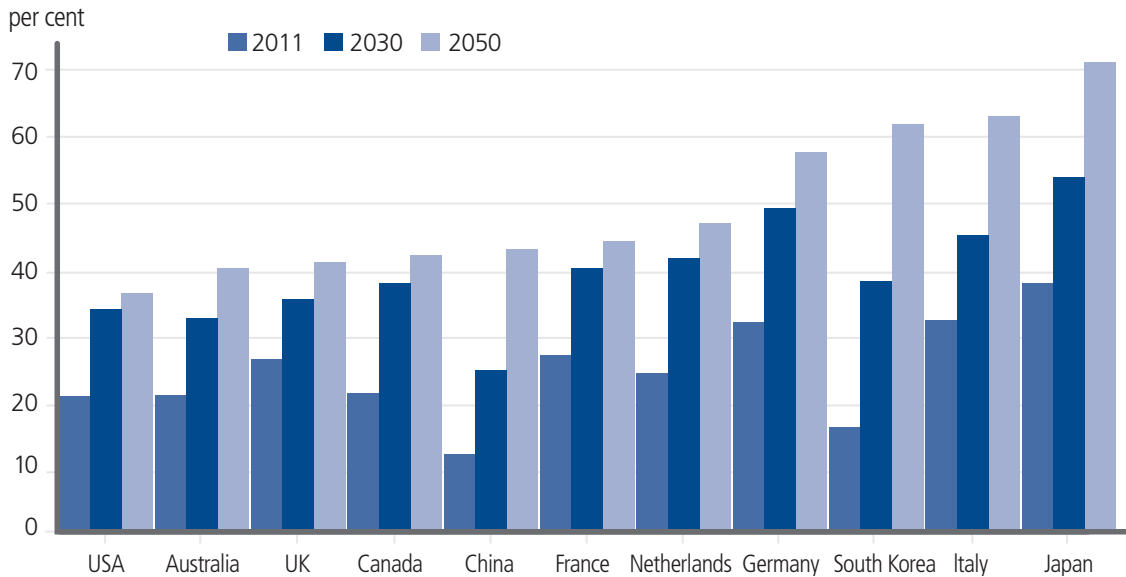
(in billions of dollars)



Note: Copied from Center on Philanthropy at Indiana University (2011).

The current development funding crisis, which is both structural and cyclical, calls for an examination of financial de-leveraging⁶, long-term structural issues and inadequacy of current policy tools. The aging demographic in most OECD countries compounds the failure to address development financing challenges. With spending for health care, pensions and social welfare of the aging population accounting for substantive and increasing proportion of governmental budgets, OECD countries are in a position where governmental budgets are highly impacted. Figure 3 shows the global ratios of individuals 65 years or older vis-à-vis those of individuals between the ages of 15 and 64 years. These figures indicate substantive challenges for all OECD economies, especially in Japan, Italy and Germany, where three to four people currently employed support one retired individual. The situation is expected to worsen in 2050, wherein one person employed will support two to three retired individuals. It is unlikely that significant productivity growth can be expected to cover up this disparity.

⁶ This refers to the reduction in the leverage ratio or the decline in the percentage of debt in the balance sheet.

Figure 3. Global proportion of retired people (65 years or older) vis-à-vis individuals between 15 and 64 years old.

Source: Canadian Finance Ministry

The impact of the aging crisis on development financing in European countries is compounded by the Maastricht Treaty, which excludes unfunded pension liabilities in the definition of national debt. In the case of Italy, for instance, the current debt-to-GDP ratio of 125 per cent would instead be 325 per cent when currently unfunded and effectively unaccounted liabilities in the Italian national debt are taken into consideration. This demographic time bomb is observed not only in European communities or in North America but also in China with a time lag due to the “one child” policy. This ticking bomb is expected to result in a squeeze on ODA for some of the traditional large donors to development financing.

The crisis driven by demographics in OECD countries and China threatens to reduce “top-down” capital allocation from donor governments. The decline in capital funding flow is exacerbated by a second demographic trend in the developing world – that of a huge growth in youth populations. Fuller (1995) noted that with a young population base comes social unrest, war and terrorism, which some developing governments need to address with overseas financial assistance.⁷

⁷ Information in this paragraph are derived from reports from the Central Intelligence Agency. These reports can be accessed by visiting the following web links: CIA 2001 (https://www.cia.gov/library/reports/general-reports-1/Demo_Trends_For_Web.pdf) CIA 2012 (<https://www.cia.gov/news-information/featured-story-archive/2012-featured-story-archive/snapshot-of-global-youth-challenges.html>)

As a consequence of these trends, combined with continued economic growth in developing countries, donor spending is predicted to decline over time, thus reducing the influence of traditional donors on the development pathways of developing countries. The entry and active role taken by the Organization of Petroleum Exporting Countries⁸ and members of the BRICS⁹ group have offset the slump of funding from traditional donors. Several high-net-worth individuals with considerable influence on policies and innovations, such as the Bill and Melinda Gates Foundation, have also entered the fray. The backslide in traditional development financing is somehow compensated by the blossoming philanthropy in many Asian countries. In India, the number of high-net-worth individuals¹⁰ has grown in recent years and donations to charitable institutions have increased from USD 2 billion in 2006 to USD 6 billion in 2010 (Sheth and Singhal 2011). These new sources of capital, although potentially substantial, are not sufficient to address the structural issues outlined above.

1.2 Plight of current development aid paradigm

This paper argues that the development paradigm of the past 50 years, one of grants and concessionary loans to developing country governments, is in crisis. The current paradigm in development aid involves primarily the building of infrastructure and service capacity, with major emphasis on getting the money out of the door within the project cycle and on having a “handover” of infrastructure to governments. This model gives very limited focus on factors that ensure sustainability, efficiency and affordability of services related to governance, behavior change, operations and maintenance (O&M), and capacity building. Despite the Paris Declaration on Aid Effectiveness, which most donor countries are making laudable efforts to implement (OECD 2011), the traditional donor-recipient paradigm – a government-to-government relationship – remains as the framework of the development marketplace. This model has been observed to result in politicization and corruption.

In examining the success of ODA to support the scale-up of civil society innovations and solutions in developing countries, results have been poor. Some governments are capable of effectively employing good solutions; however, the skills required in identifying and implementing new innovations are very limited. Many civil society organizations are heavily dependent on government support and they often collapse when that support is withdrawn.

The current aid paradigm is focused and catalyzed by the amount of money that the donor gives away (input models – the 0.7% of GDP target) and on funding individual programs with their own metrics (output models). This scheme creates a system that, by definition, is misaligned

8 Saudi Arabia, Abu Dhabi, Qatar Foundation.

9 Brazil, Russian Federation, India, China, South Africa.

10 A high-net-worth individual is a person with assets of US\$ 1 million or more (excluding primary residence, collectibles and consumables).

with the broader social mission. Gordon Brown, former Prime Minister of UK, has expressed these gaps in a speech made at the United Nations in New York in 2007:¹¹

"... but our objectives cannot be achieved by governments alone, however well-intentioned; or private sector alone, however generous; or NGOs or faith groups alone, however well-meaning or determined – it can only be achieved in a genuine partnership together.

So it is time to call into action the eighth of the Millennium Development Goals so we can meet the first seven.

Let us remember Millennium Development Goal eight – to call into being, beyond governments alone, a global partnership for development, and together harness the energy, the ideas and the talents of the private sector, consumers, NGOs and faith groups, and citizens everywhere."

In reality, however, Gordon Brown's development outlook is not how global financing aid is delivered; it is delivered issue by issue and region by region. In the United Nations system alone, there are 30 players that expressed interest in water and sanitation.¹² Indeed, practically many of the budgets of these organizations are managed at the regional level further compounding the fragmentation.

Similarly, the philanthropic world of private foundations and Civil Society is even more fragmented and, a "sectoral" focus ignores the interdependence of many issues. In most cases, innovation is overlooked and is, at times, analyzed by a sectoral specialist who does not have the requisite skill or who has a vested interest in the maintenance of the status quo. The lack of reward structure for innovation, as well as the highly complex bureaucratic and rules-based management systems, has created a powerful disincentive to introduce development aid innovations.

The development constraints are particularly relevant in cases related to the application of commercial or financial innovations to social issues, where the right questions may be addressed to the wrong group. In sanitation, for instance, financing innovations cannot be properly assessed merely by the number and types of professionals that dominate the sector. At times, there are some misunderstandings among these professionals on how financing solutions work. Some have a traditional bi-polar view of development financing: "for profit" versus "not for profit."

The limited confinement of profit and not-for-profit outlooks calls for an examination of an alternative paradigm. The proposed development approach starts with a focus on the inherent value or worth of services as opposed to the cost of providing services. The implementation of this new financing model is expected to address the challenges faced by development funders and recipients.

11 Brown, G. 2007. "Brown's Speech at the UN." BBC News, July 31. Accessed 18 April 2013. http://news.bbc.co.uk/2/hi/uk_news/politics/6924570.stm

12 UN Water. 2013. "UN-Water Members and Partners." <http://www.unwater.org/members.html>

1.3 A new paradigm for development financing

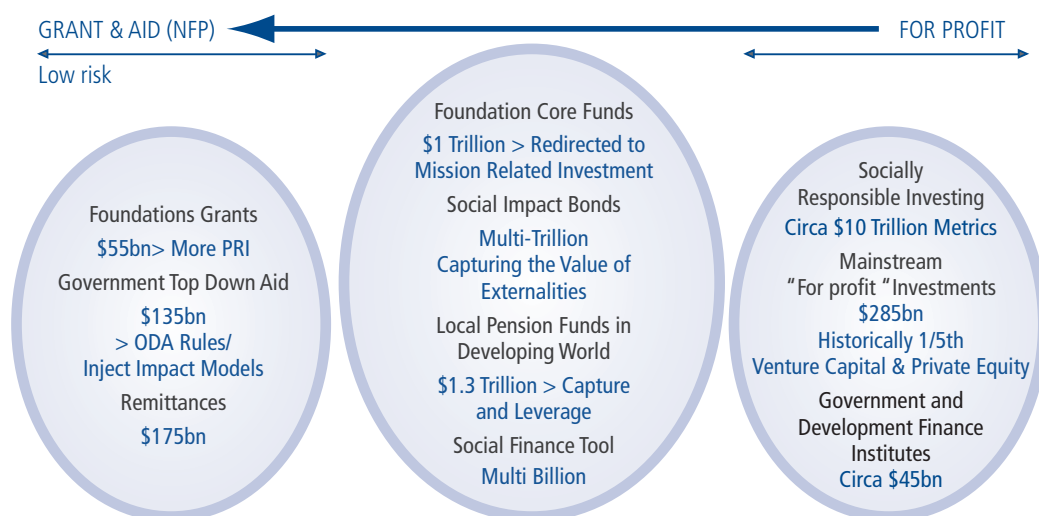
Starting from the traditional “input and output” models, an approach in which government programs and development cooperation estimate the cost of providing a set of given services to a target population and the development funding is provided in the form of a grant or subsidy. This approach uses the lens of “charitable giving”. The benefits are measured in terms of the population successfully provided with the identified service. The other impact indicators considered include improvement in health, increase in employment or reduction in social unrest. By financial definition, the input model system allocates capital without repayment to the financier, which often fails to leverage further funds to ensure sustainability.

The “outcome” model, on the other hand, takes the value of services to the target population and society as the starting point. It recognizes that within the current set of conditions, the market alone cannot deliver these services to the target population due to the low willingness or capability to pay the price at which services can be delivered. The following factors influence the implementation of the outcome model:

- Low current production volumes (leading to high unit costs);
- Lack of recognition of the benefit of services by the consumer;
- Large share of benefits, which are non-excludable (a characteristic of public goods), that are external to the consumer or payer; and
- Low disposable income and/or more urgent priorities of the target population.

To overcome these barriers, the outcome model gives the total value to the services. The model attempts to capture the benefits by constructing a market that leads to a significantly higher level of service consumption. The assessment of the values and benefits includes the following activities:

- 1 Valuation of contingent returns. For improved water and sanitation, the World Health Organization (WHO) estimated that the provision of universal access to improved water and sanitation services has an annual value of USD 200 billion (Hutton 2012). These returns are tens to hundreds of times more than the current spending on these issues.
- 2 Identification of funding agents willing to act as guarantors of private investments who are willing to accept the risk and the delayed returns. These agents are interested mostly in social returns. Figure 4 shows how financing agents can better capture the social benefits of sanitation interventions.
- 3 Enhancement of the market size to exploit economies of scale.
- 4 Conduct and dissemination of more convincing research, advocacy, and marketing tools.

Figure 4. Current social capital market (left & right) and the new “blended” system (middle).

Notes: (i) Figure developed by the authors with information gathered from Total Impact Advisors, Ascending Markets Financial Guarantee Corporation (AMF), World Sanitation Financing Facility (WSFF) and Hudson Institute.

(ii) DFI: development finance institution; NFP: not for profit; PRI: program-related investment; SRI: socially responsible investment; TEEB: the economics of ecosystems and biodiversity; WSP: Water and Sanitation Program

1.4 The unfinished development agenda

The current global priorities as captured in the Millennium Development Goals (MDGs), which cover an implementation period between 2000 and 2015, address some of the most pressing and solvable universal issues. The MDG includes the following targets: basic coverage of selected key services and basic needs such as education, health, food, water and sanitation. The overall intent of the MDGs is magnanimous; however, it is not a perfect formula to solve the world’s problems. The MDGs do not fully include all aspects of development, and the indicators used to measure progress reflect only a few select criteria. Despite some of its shortcomings, achieving an MDG target still narrowly indicates how population welfare is being increased or inequities are being reduced.

Although progress has been reported for some MDG indicators, other stricter measures of progress indicate that many development challenges remain. These challenges include population growth pressure on natural resource endowments, freshwater quality decline, malnutrition, surge in energy prices, deterioration of quality education, persistent inequalities and biodiversity loss, among many others. The competition for financing to address these multiple of development issues is tight. Priority spending on issues such as climate change, food and energy security, and peacekeeping continues to limit the funding available for water and sanitation. It is therefore important to develop the links between these issues and sanitation.

The current development framework embedded in the MDGs is fast approaching its expiration, and discussions are underway to ensure that the achievements under MDG continue with the new development framework with corresponding sustainable development goals, targets and indicators that are more comprehensive and ambitious than those in the MDGs. Within the sustainable development context, the outcome document of the Rio+20 Summit has proposed a new development framework not only for low- and middle-income developing countries but for developed countries as well. In the area of sanitation, it is likely that governments will have to measure and report on the proper treatment and disposal of wastewater, and operators will have to increase efficiency as well as provide more reliable services to customers.¹³

2

Why choose sanitation?

This chapter presents a series of arguments and justifications why sanitation can potentially attract significant future investments and, in particular, why innovative financing mechanisms are urgently needed to achieve scale. The arguments move beyond the traditional “public good” and health arguments and explore other enabling factors and potential for private sector involvement.

2.1 Sanitation: falling short in the global development priority

One of the United Nations MDG targets¹⁴ is to halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation, with 1990 as the baseline year. According to the Joint Monitoring Programme (JMP), the rate of progress toward achieving this target is such that the target will not be reached in its entirety by 2015 (WHO and UNICEF 2012). Whereas the target for safe drinking water was met in 2010, sanitation is still considerably off-track. Based on the most recent estimates, sanitation coverage must increase globally from 63 per cent to 75 per cent between 2010 and 2015. At the current rate of progress, sanitation coverage worldwide is predicted to be 67 per cent in 2015, 580 million people short of the MDG target. Table 1 shows the coverage until 2010, the target coverage and the gap to make up in the remaining 5 years. The most important region in terms of gap and numbers is South Asia, which consists of nine countries but is dominated by India (see Annex I for the categorization of countries by MDG region). Figure 5 shows the change in progress needed to achieve the MDG target.

13 World Health Organization and UNICEF. 2010. “Goals, Targets, Indicators: Post-2015 Global Monitoring.” Last modified 2010. <http://www.wssinfo.org/post-2015-monitoring/overview/>.

14 Goal 7, Target C.

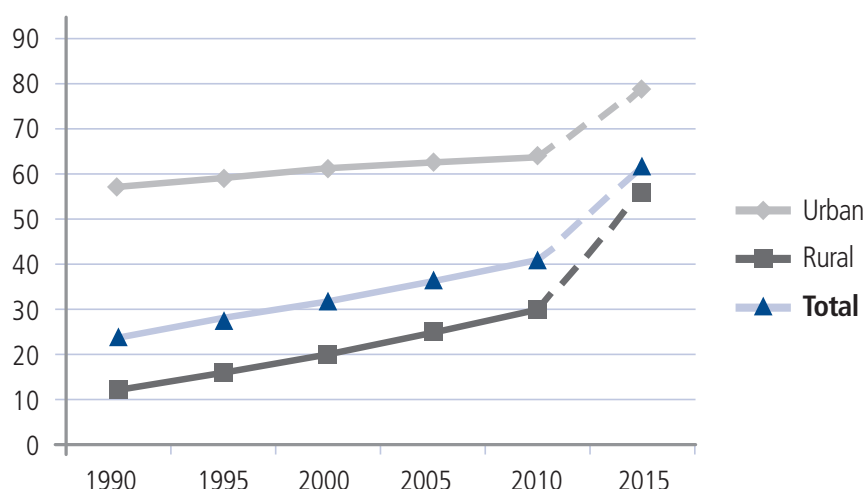
Table 1. Coverage with “improved” sanitation in Asian MDG regions (see Annex II).

Asia sub-region	Location	1990	2000	2010	2015 (target)	MDG Gaps
Eastern	Urban	53	64	76	77	1
	Rural	16	36	57	58	1
	Total	27	47	66	64	-2
Southern	Urban	57	61	64	79	15
	Rural	12	20	30	56	26
	Total	24	32	41	62	21
South-Eastern	Urban	68	74	82	84	2
	Rural	36	49	60	68	8
	Total	46	58	69	73	4
Western	Urban	96	93	94	98	4
	Rural	55	60	67	78	11
	Total	80	81	85	90	5
Oceania	Urban	85	84	84	93	9
	Rural	45	44	46	73	27
	Total	55	54	55	78	23

Notes: (i) a The gap values reflects the progress in coverage that needs to be made between 2010 and 2015 to meet the MDG target. A negative value indicates that the MDG target for sanitation has already been met.

(ii) Data source: WHO and UNICEF (2012).

Figure 5. Coverage with “improved” sanitation in the South Asian region and progress needed from 2010 to 2015 to meet the MDG target.



Note: Copied from WHO and UNICEF (2012).

Annex II shows sanitation coverage by Asian country. To meet the MDG target in these countries, the total population to be covered is 606 million, whereas to reach universal coverage, an additional 1.4 billion need sanitation. These figures suggest that approximately 2 billion Asians still need sanitation coverage. The 2 billion Asians without access to basic sanitation services is divided into 1.35 billion for rural areas and 0.65 billion for urban areas. This accounts for almost 50 per cent of the total 4.2 billion Asians projected in 2015.

In addition to basic on-site sanitation, the excreta of many households need to be transported safely, either with sludge collection services or via sewerage, and then treated and disposed¹⁵. It is crucial that treatment be associated with these options, to avoid environmental pollution and worsening of water resource degradation. This is an important issue especially in urban areas with at least half of wastewater not treated or inadequately treated. A functioning service chain includes collection, transport, treatment and disposal.

Sanitation is still off-track in many Asian countries not only because it receives inadequate funds and attention from governments but also because the baseline was low in some countries that required significant progress. The required investments to close the gaps are not currently forthcoming due to the lack of overall grant financing and commercial financial providers, both of which result from the opaque nature of the sanitation challenge.

¹⁵ This is true of all households, except, in particular, rural dwellers, who may leave excreta in the ground and build a new pit latrine each time the pit becomes full.

2.2 Social and economic impacts of poor sanitation

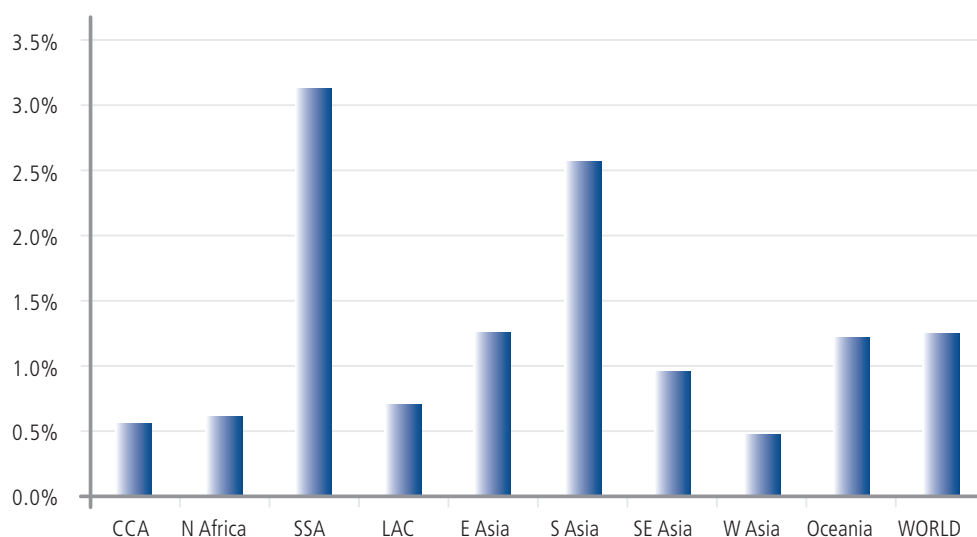
Poor sanitation has major and diverse negative consequences for populations and economies. These impacts have been described in volumes of scientific and economic research work. What is striking about sanitation is the number of links it has to other issues – water resources, environment, health, education, gender equality, children, agriculture, economy, tourism, rural development.

One very concrete implication of poor sanitation is its health consequences (*The Lancet* Editorial 2008a). Failing to isolate or fully treat human excreta leads to the transmission of a wide range of diseases. The most well-known ones such as diarrhea, dysentery and cholera are transmitted via the fecal-oral route (i.e. ingested), but others that are transmitted via the skin and the eye also have major public health impacts. Approximately 1.2 million of the global 2.5 million deaths from diarrheal disease occur in Asia.¹⁶ One quarter of these are in children younger than 5 years. Medical doctors fully appreciate the key role of sanitation in improved health. In a survey in *The Lancet*, medical doctors voted sanitation as “the most impactful intervention in public health” (Lancet Editorial 2007). Improved water, sanitation and hygiene (WASH) can avert 9.1 per cent of the global burden of disease and 15 per cent of the burden of disease in 32 of the worst-affected countries (*The Lancet* Editorial 2008b).

Studies have estimated the impact of poor sanitation on health and productive time use in economic values, which are presented in the latest WHO global economic study on water and sanitation (Hutton 2012). Figure 6 presents figures focusing on sanitation alone. The estimates vary from 0.5 per cent in Western Asia to 2.5 per cent in Southern Asia. The economic value associated with providing universal sanitation coverage, considering these two benefits, amount to USD 140 billion annually. Three quarters of these benefits accrue in Asia and the Pacific: USD 53 billion in East Asia, USD 31 billion in South Asia, USD 11 billion in Southeast (SE) Asia and USD 8 billion in Western Asia.

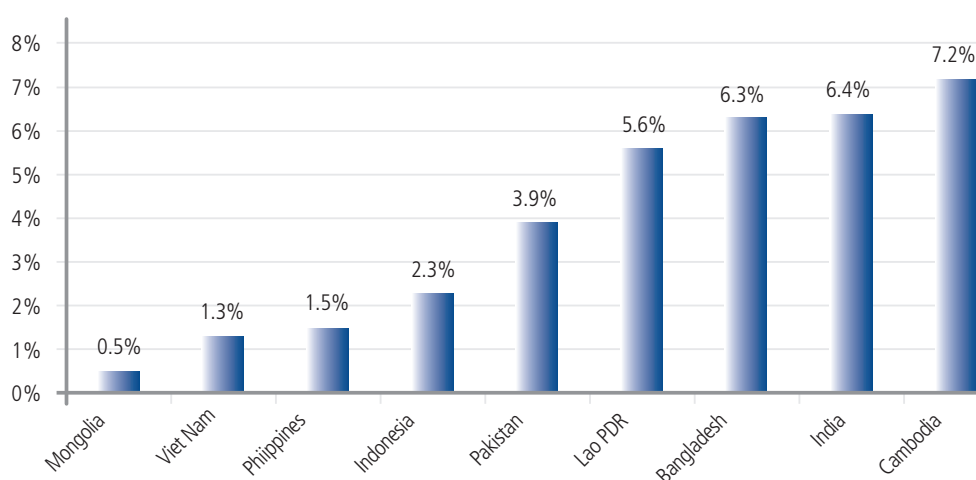
16 World Health Organization. 2013. “Global Health Observatory Data Repository.” Last modified 2013. <http://apps.who.int/ghodata/>

Figure 6. Global economic costs of inadequate sanitation as per cent of annual GDP.



Note: Copied from Hutton (2012).

Figure 7. Economic impacts of poor sanitation in selected Asian countries.



Sources: (Hutton et al. 2008; Hutton et al 2009; Tyagi 2010; Hutton and Amartuvshin 2011)

Since 2008, the Water and Sanitation Program (WSP) of the World Bank has been conducting in-depth country studies of the economic impact of inadequate sanitation in nine Asian countries (see Figure 7)¹⁷. The World Bank study indicates that poor sanitation was costing

¹⁷ The UNICEF led the study in Mongolia.

the economies of many developing countries an equivalent of between 0.5 and 7.2 per cent of their annual GDP¹⁸. In SE Asian countries, the average is 2 per cent of the GDP, whereas in South Asian countries, it is 6 per cent of the GDP

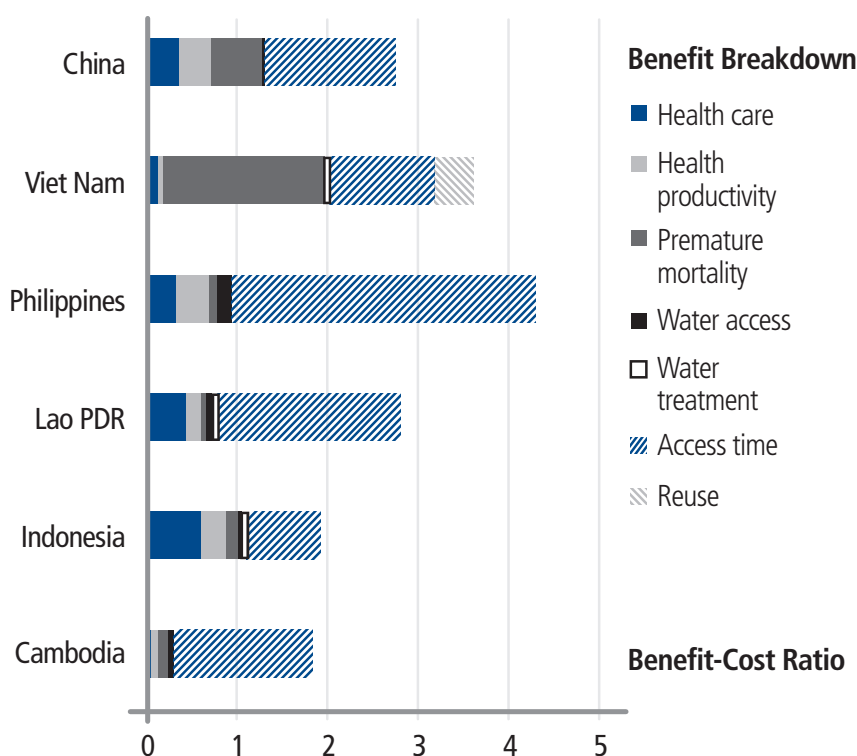
When the social benefits are compared with the costs of improved sanitation, very favorable ratios are found. In its latest report, WHO found benefit-cost ratios varying from 4.6 in South Asia, to 5.0 in South-East Asia, to 6.1 in Western Asia to 8.0 in East Asia (Hutton 2012). Country studies from the WSP validate these results, with their estimates including more benefits and providing greater detail on specific interventions. Wet pit latrines have the most favorable return, at between 6 and 8, whereas septic tanks, with their higher unit cost, have lower ratios of between 3 and 4 (see Figure 8).

In addition to the benefits of sanitation that could be expressed in monetary terms in the above studies, there are a number of benefits of improved sanitation that are difficult to quantify and even harder to monetize, such as dignity, privacy and social status. In a recent WSP socio-economic study, these aspects were found to be very important to household respondents, who were predominantly female (Hutton et al 2012).

A key benefit of improved sanitation in countries with continued population expansion is environmental sustainability. Poor sanitation practices pose challenges for water resources, including inadequate treatment of industrial wastewater (Corcoran et al 2011). The result is a growing number of unusable surface water bodies in the Asian region and greater reliance on groundwater, which is being used in unsustainable rates and is also becoming contaminated by interactions with polluted surface water and saltwater intrusion.

¹⁸ The high impact in South Asian countries is due to the lower average sanitation coverage levels in these countries and the significantly higher average rates of sanitation-related mortality.

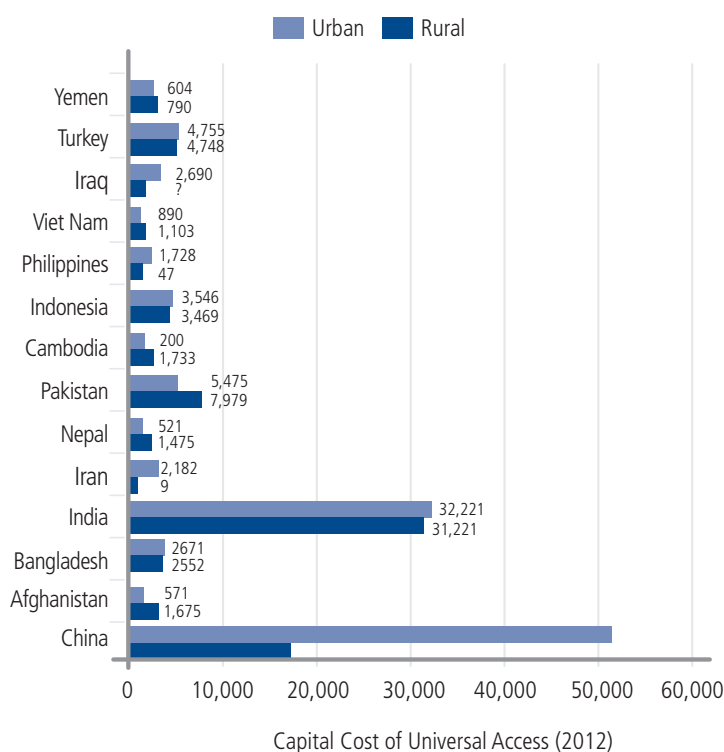
Figure 8. Benefit-cost ratios of improved sanitation in urban areas of selected Asian countries.



Note: Copied from Hutton et al (2012).

2.3 Untapped business opportunities related to sanitation

The capital cost to close the sanitation gap in the Asia-Pacific region is USD 188 billion (see Annex III), which, assuming an average replacement life of 20 years, is close to USD 10 billion annually (Hutton 2012). Figure 9 shows the sanitation gaps in selected countries. Add to this the cost of operating and maintaining new sanitation facilities (USD 2 billion per year) and existing sanitation facilities (USD 18 billion per year), the overall sanitation and wastewater market is roughly a USD 30 billion per year market in Asia. These estimates reflect the unit costs of essential systems. However, as explained in this section, the market is greater than USD 50 billion per year, as greater value can be generated from the various sanitation services (as suggested by the high benefit-cost ratios).

Figure 9. Capital cost of interventions to improve sanitation to reach universal access.

Note: Copied from Hutton (2012)

The sanitation market has significant untapped potential. As detailed below, there are at least eight identified business lines; however, their potential is variable between settings. Some of them are the basic service, whereas others are ways of extracting incremental value. Some of them overlap, but distinction is made here for the later purposes of exploring further the business potential inherent in each.

In many cases, for market assessment, it makes sense to segment the sanitation chain, as different agents are responsible for, or can contribute to, different components. Commonly, the service chain is distinguished between on-site facility, collection, transportation, treatment/disposal and reuse. The business lines are as follows (these are described further in section 4.3.2):

- Municipal financing
- Housing/mortgage financing
- Entrepreneurs/private sector
- Consumables and corporate engagement
- Public toilets
- Energy
- Fertilizer
- Carbon market.

The United Nations and many donor governments have repeatedly stated that private sector financing should be brought into core development topics. The United Nations Secretary General's High Level Panel on Global Sustainability gave five recommendations related to this, provided in the following Box:

- Governments and business should build partnerships (Recommendation 8).
- Governments and business should build strategic partnerships with local communities for the implementation of sustainable development investments (Recommendation 34).
- Governments, international financial institutions and major companies should work together to create incentives for increased investments in sustainable technologies, innovations and infrastructures, including through the adoption of policies and targets that reduce investor uncertainty; the promotion of public-private networks to support research and development; the development of risk guarantee schemes and the provision of risk capital; and seed financing (Recommendation 35).
- Governments should use public investment to create enabling frameworks that catalyze very substantial additional financing from the private sector, for example, through the provision of infrastructure, risk-sharing, viability gap funding or advance purchase commitments (Recommendation 37).
- Governments and the financial sector should develop innovative partnerships to provide capacity-building and increased access to capital, as a means of incentivizing small and medium-sized enterprises and enabling them to take part in the new sustainable economy (Recommendation 38).

Note: Copied from the United Nations Secretary-General High Level Panel on Global Sustainability Report (2012).

2.4 Enabling environment for sanitation change

In addition to the socio-economic arguments and the market potential of sanitation, a number of enabling factors that favor the choice of sanitation for testing and scaling up innovative financing approaches exist. It is also important to be aware of the potential risks and missing enabling factors. These risks and factors are covered in chapter 3.4.

Various factors favor sanitation. These are relevant more at the international level than in individual countries. First, there is a widely recognized global data set on sanitation coverage, collected by the WHO/UNICEF JMP and whose prominence and use have grown steadily since the year 2000. Hence, for monitoring purposes, the definitions on sanitation are quite well understood, and the global monitoring draws on reliable, nationally representative data sets. The data sets include Demographic and Health Surveys, Multi-Indicator Cluster Surveys,

Censuses and Living Standards Measurement Surveys, among others. JMP compiles these data sets on a continuous basis and currently publishes updates every two years. There is a time lag of two years; for example, the latest report published in 2012 refers to estimates for 2010 (WHO and UNICEF 2012).¹⁹ Many countries use these definitions and these same data sets to monitor sanitation coverage, often supplemented with administrative data.

The JMP data refer to sector “outputs”. In addition, recent efforts of global institutions have improved data on sector “inputs”, such as policies, resources and enabling environments for scaling up sustainable, affordable water and sanitation services. These efforts started in Africa with the Country Status Overviews in 2006 and have since been transplanted, with some adjustments, to South Asia (India), and work by the WSP (World Bank) with partners to define a monitoring framework for SE Asia is ongoing. Every two years, the United Nations-Water and WHO also publish a global report with information on donor as well as national WASH policies and resource allocations. In 2012, the report covered 74 low- and middle-income countries and 24 donor agencies (World Health Organization 2012). Hence, donor countries and organizations can use these data sets and definitions to plan which nations to intervene as well as to set up project-specific audit mechanisms and guide local data collection.

Second, sanitation is less politically complex than many other development issues, such as water, climate change, food production and energy. It is thus more marketable to the global community, with limited political risk. Within sanitation, there are several topical areas that can draw attention and funding, for example, energy production and reduction of carbon emissions or for low-cost nutrients for agricultural production. Sanitation also offers benefits to all, as opposed to other topics that are a zero-sum game. For example, in water resources, the resource is limited and must be allocated somehow, with winners and losers (Addams et al 2009). Similarly, in climate, carbon emission reductions must be found from somewhere, and if carbon markets are operating, carbon emitters will be paying a price (McKinsey & Co. 2009). In sanitation, however, there are no similar complications arising that involve interest groups who will seek to influence the allocations.

Third, there is considerable momentum within the global sanitation sector that has translated to increased commitments at the country level. Emerging recently as one of the most off-track MDGs, increasing support to the sector is evident. The Hashimoto Action Plan of the United Nations Secretary General’s Advisory Board on Water and Sanitation (UNSGAB) in 2006 (UNSGAB 2006), the International Year of Sanitation in 2008, a number of frequent regional sanitation conferences,²⁰ the Sanitation and Water for All partnership and the United Nations Sanitation Drive to 2015 brought, in part, this new wave. In 2010, the Human Rights Council and

¹⁹ Note that JMP recognizes that annual reports would be more useful to sanitation stakeholders and is now planning to release annual updates.

²⁰ Relevant ones in Asia are the South Asia Conference on Sanitation (SACOSAN) and the East Asia Conference on Sanitation and Hygiene (EASAN), held several times since 2003.

The United Nations General Assembly passed the international law on human rights to water and sanitation. This legal declaration can be used to drive sanitation policies, supported by international pressure, parliaments, human rights bodies and citizen's groups within countries. Sanitation, indeed, has received a high profile in the media, with more and more public awareness generated on the poor state of sanitation and water resources. Some donors have done well to protect development funding for sanitation and to bring greater focus on basic sanitation.

Fourth, sanitation as defined by the MDG target is an unfinished agenda. There is the "other half" to think of.²¹ Furthermore, populations demand more than just basic sanitation. The WASH community proposes that, after 2015, universal sanitation be adopted as a global target and an endorsement of a stricter definition of sanitation— one that also takes into account how waste is treated and disposed. JMP is midway through a process of identifying appropriate targets and indicators for setting future global policy as well as global monitoring.²² These proposals will be incorporated into broader discussions within the United Nations and at the country level. The timelines are not clear yet, but a period of between 15 and 25 years is likely.

The various opportunities presented in this chapter need to be further exploited to put sanitation more on the political map. These opportunities are also necessary to raise sanitation profile with private sector players. The arguments detailed above, together with the opportunities provided by changes in legal frameworks and financing sources (see chapter 4), indeed have the potential to lead to significant progress in the sanitation sector.

3

Why business-as-usual will not work for sanitation

This chapter presents evidence that existing financing sources are insufficient for Asian developing countries to achieve 100 per cent coverage of sanitation services.²³ Furthermore, it is argued that the dominant financing mechanisms, that is, the way in which public and private funds are channeled and spent, will not lead to efficient delivery of sanitation services nor produce the outcomes desired.

21 The MDG target is to reduce by half the population currently without access to basic sanitation.

22 Documents on the process can be found at www.wssinfo.org.

23 It is feasible that close to 100 per cent access to "basic" sanitation (as defined by JMP) may be achievable in the majority of Asian countries in the next 15-25 years. However, at the current rate of progress and with remaining challenges, this is unlikely to happen under a stricter definition of sanitation that is likely to be applied after 2015.

3.1 Types of financing

One commonly used way of categorizing traditional financing sources is the 3 Ts: taxes, tariffs and transfers, which refer to government, private sector and donors/non-governmental organization (NGO) sources, respectively. (Camdessus 2003) distinguishes these 3 Ts from other forms of financing such as loans, bonds and equity. These latter sources help bridge the finance gap. Repayment is needed for loans and returns on financing investment are expected from bonds and equity. The 3 Ts provide the future cash flows that close the gap (Camdessus 2003).

In general, taxes and transfers are subsidies spent primarily with the aim of enhancing social welfare and producing services that people need or demand, even in the absence of the people's ability to pay. There are many types of subsidy²⁴ that can be channeled through a variety of mechanisms, as described by (Evans et al 2009). Private financing, however, is attracted to the water sector primarily not to provide subsidies but for the purposes of making a financial return. Table 2 presents examples of each one.

In reality, most sanitation services are delivered using a mixture of financing sources (Désille et al 2011). The Camdessus (2003) report, "Financing water for all", a landmark document of a world panel on financing water infrastructure, recommends an appropriate mix of the 3 Ts to finance recurrent and capital costs and to leverage other forms of financing. These mixed financing approaches are commonly termed public-private partnerships (PPPs), or private sector participation (PSP). A range of PPPs exist, including community contractors, service contracts, management contracts, leases, concessions (build-operate-transfer), divestures and public-private companies (Franceys 1997; World Bank 2004; OECD 2010).

The most common form of PPP is when public funds are used to incentivize a private provider to become engaged in a service or to provide services to specific populations. These PPPs flourish where the market conditions would otherwise be too risky to invest or operate in the sanitation business. The incentives provided by the public entity may be in the form of blending grants and repayable financing for the provider (e.g. interest rate subsidies) or output-based aid (OBA), wherein rewards/contracts are paid on the delivery of the pre-defined infrastructure or services.

24 Direct, infrastructure, connection, operational, cross-subsidy, consumption, output based, regulatory advantages, subsidized credit.

Table 2. Features of different financing sources.

Finance source	Features	Example
Taxes		
Funds raised by government based on tax revenues	Government provides subsidized service which is either free or below cost – either via a public provider at decentralized level (via extension service) or via a private provider (see “mixed”)	Rural latrine program
Funds raised by government through loans or based on bond issuance		Urban infrastructure investment (sewerage, wastewater treatment)
Tariffs		
Private provider – equity financing	A service provider raises capital via issue of shares to expand business activities	Combined or separate water/ wastewater services
Private provider – debt financing	Latrine maker/distributor	
Public provider	Government often provides a public service at a subsidized fee	Public provider
Transfers		
General budget support	Donors, usually multilateral and bilateral agencies, provide grant financing to the Ministry of Finance. Conditions apply, with triggers for funds release.	Poverty reduction support credit
Sector budget support	Donors, usually multilateral and bilateral agencies, provide grant finance to the Ministry responsible for sanitation services. Conditions apply, with triggers for funds release.	Sector-wide approach
Project support	Donors (multilateral, bilateral, NGO) provide funds for a specified project or implement a project themselves.	Direct service delivery (via intermediary)
Mixed (PPPs)		
Strengthening the supply of services	The government involves the private sector for building, operating and/or maintaining services according to conditions agreed in contract. Often donors (e.g. multilaterals) play a key role.	Private concessions – build, operate, transfer
Strengthening the supply of financing	The government or other partner supports a loan market to improve access of smaller providers to finance a business activity or consumers to finance a service.	Bank loans/micro-finance

Note: IDA - international development assistance.

Another form of PPP is when public institutions help private entities to improve their credit-worthiness through technical assistance and grouped financing vehicles (see Table 2). On the demand side, microfinance is commonly subsidized (e.g. seed money provided for revolving

funds) to help pay for the high upfront cost of the project. Another form of PPP is when the government bears a risk to engage a private sector player, such as political guarantees, to commit to an agreed contractual framework or taxpayer coverage in case of foreign exchange risks.

The next sections focus on three major constraints to scaling up sanitation services: the inadequacy of existing financing volumes, the lack of focus on outcomes as the driver of financing mechanisms and the inadequacy of institutional frameworks to respond to sectoral needs for scaling up sanitation services. The World Bank recognized these constraints in a landmark publication on water and sanitation financing (Mehta 2003).

3.2 Volumes of financing are inadequate

A few years ago, the (Global Water Partnership 2000) estimated a global shortfall in funds of USD 16 billion annually between 2002 and 2025 for sanitation and hygiene. The annual estimate for municipal wastewater treatment is USD 56 billion between 2002 and 2025²⁵. With a deficit of USD 23 billion for industrial effluent, the total annual costs of sanitation and wastewater management are approximately USD 95 billion per year. This estimate is not significantly different from that in more recent studies. Media Analytics (conducted for the OECD) estimated the total capital expenditure requirements to USD 83.5 billion per year in 2009.²⁶ The WHO estimated the capital cost requirements to achieve universal access of sanitation to approximately USD 66 billion per year from 2011 to 2015 in non-OECD countries (Hutton 2012). Compared with current spending of approximately USD 30 billion annually, only roughly one third of the sanitation and wastewater management costs are currently covered.

In Asia, WHO estimates capital cost requirements of USD 12 billion per year from 2011 to 2015 to achieve the sanitation MDG target and an additional USD 25 billion per year to achieve universal access of sanitation (Hutton 2012). Hence, the total is USD 37 billion per year, of which USD 23 billion is for urban areas and USD 14 billion is for rural areas (see Annex III). The actual current spending on sanitation in Asia is not known.²⁷ Piecing together spending by large donors such as World Bank and ADB, some estimates can be generated. ADB's Water Financing Partnership Facility (WFPF), for instance, has committed US\$ 7.91 billion to water supply, sanitation and wastewater management over the period 2006-2011. WFPF's targeted outcomes for 2006-2020 are, among others, 500 million people with sustainable access to safe drinking water and improved sanitation. It should be noted that whatever the current expenditure on sanitation,

²⁵ Camdessus (2003) used these figures.

²⁶ Owens, D. 2010. "Wastewater treatment spending needs, 2010-29". <http://www.oecd.org/env/resources/44863928.pdf>.

²⁷ For government spending, statistics could be compiled. The UN-Water Global-Level Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) has found it difficult to source such statistics, having responses on government WASH spending from only 4 of 74 surveyed countries. The ADB estimated capital, operations and maintenance expenditure requirements for 27 surveyed cities across Asia, as well as financing sources. However, not all of these cities could provide data. Data on water and wastewater expenditure from households can be estimated by compiling data from national surveys such as Living Standards Measurement Surveys and Income & Expenditure Surveys. This, however, would need significant further research.

the resource requirements as suggested by the WHO study (Hutton 2012) are likely to be a multiple of several times current spending. How can this shortfall be met for sanitation, including wastewater management, in Asia?

Government sources. The arguments for tax-based public subsidies for sanitation are attractive. These subsidies include the associated externalities, the non-affordability of privately provided sanitation services to the poor and the low cost of capital when using tax subsidies (Hall 2010). Given that there is no single OECD member country that built their sanitation infrastructure from private funds, it is likely impossible for private entities in developing countries to develop such infrastructure and services. The Planning Commission of India estimated that only 1.5 per cent of the cost for the 5-year sanitation plan (2007–2012) will be financed by the private sector. Camdessus (2003) underscores the importance of predictability of public subsidies in facilitating both public and private investments in sanitation. The Asian Development Bank (ADB) Asian Sanitation Databook estimates that across the 17 of 27 surveyed Asian cities, national and local governments cover 66 per cent of USD 8.2 per capita per year for capital investments and 61 per cent of USD 1.9 per capita per year of operation and maintenance (O&M) costs of water supply and sanitation (Asian Development Bank 2009). Tariff revenues cover only 24 per cent of O&M costs.

Donor sources. As previously stated, financing from traditional donor sources are not going to increase significantly in the coming decades (Zubairi et al 2012).²⁸ WaterAid estimates that between 2008 and 2010, 33 per cent of global ODA for the WASH sector was spent in Asia: the majority going to Viet Nam (annual average for 2008–2010 is USD 522 million), India (USD 476 million), Bangladesh (USD 232 million), Indonesia (USD 189 million) and Sri Lanka (USD 184 million). All these countries are in the top 10 global aid recipients for WASH. (Zubairi et al 2012). Current allocations by donors on water- and sanitation-related issues vary significantly between countries. The proportion of government spending can be as high as 46 per cent in Afghanistan and 63 per cent in Bangladesh (World Health Organization 2012). It is unpredictable what impact new government donors and foundations will have on overall aid flows. One question is whether sanitation can realize a higher share of overall donor funding. This is possible, for example, with the increasing environmental agenda of international aid, combined with the increasing realization of Asian governments that they need to reverse environmental degradation by cleaning up contaminated rivers.²⁹ However, there remain many other and urgent priorities to address. Donor funding, therefore, will be unlikely to fill more than a small part of the overall sanitation-financing gap of more than USD 20 billion in Asia. The fact that many Asian countries

28 WaterAid (2012) estimated that despite an increase of 135 per cent in WASH aid from 2000–02 to 2008–10 for South and Central Asia, the increase in financing remains minimal.

29 For example, China has invested billions of dollars to clean up rivers such as the Yangtze River. An article from People's Daily provides more details. The article can be accessed from: _____, 2002. "China to Clean up Yangtze River in Seven Years." *People's Daily*, November 18. Accessed 18 April 2013. <http://www.china.org.cn/english/China/49095.htm>

have already, or will soon, graduate from being part International Development Association countries with access to grants and below market interest loans from the multilateral development banks has somehow offset the sanitation-financing gap .

Cost recovery/tariffs. According to the World Bank, available public resources are inadequate to meet the capital cost of universal water and sanitation coverage, thus requiring incentives to attract investments from the private sector (Mehta 2003). An ADB survey of 27 Asian cities revealed that only 24 per cent of O&M costs for water and sanitation are met from tariffs. While cost-benefit studies indicate a strong socio-economic case for sanitation investment and service provision (Hutton 2012; Hutton et al 2012), this is not always reflected in the willingness or ability of populations to pay for sanitation services.³⁰ This mismatch has traditionally been dealt with by deploying public subsidies either for direct provision of subsidized services or for engaging the private sector. These approaches, however, have been fraught with difficulties. For public providers, services have been insensitive to population needs and preferences. For private sector engagement, difficult lessons have been learned in many countries on how to deal with competing policy objectives (e.g. access and affordability) during tariff setting (OECD 2009). However, the full potential range of PPPs has not been exploited due to the immature capital markets in less developed countries, such as a lack of risk takers, risk mitigation measures (e.g. partial risk guarantees that protect debt service defaults and currency risk guarantees), credit ratings, local credit markets, financial products and insurers (Mehta 2003). These opportunities are further discussed in chapter 4.

Camdessus (2003) highlighted the following specific risks for the participation of private providers in the water sector, which are further amplified in the case of sanitation:

- Absent, weak and/or inconsistent regulation;
- Capital intensity with high initial investment and long payback period;
- Contractual risk: projects of long duration entered into with poor initial information;
- Country-specific risks such as currency ratings and creditworthiness;
- Foreign exchange risk: mismatch between local currency earnings and foreign currency funding;
- Low rate of financial return;
- Risk of political pressure on contracts and tariffs; and
- Sub-sovereign risk: responsibility with local entities lacking financial powers, resources and credit standing.
- Solutions have to be found for these constraining factors directly or new paradigms of private sector involvement have to be developed.

30 This statement is supported by the fact that 2.5 billion people still do not use improved sanitation (WHO and UNICEF, 2012).

3.3 Non-optimal outcomes under an input-based financing model

Even if the risks introduced in the previous section were individually addressed and the required financing became available, would it be spent efficiently under the current “input-based” financing paradigm, and would development outcomes be significantly impacted? It has been observed that the current input-based paradigm is not satisfactory because a mixture of corruption, inefficiency and lack of focus on what really matters has led to delays, poor service delivery, poor value for money and unsustainable infrastructures and behavior change. The input-based financing paradigm has led to sanitation projects focusing on construction and handover, with little attention to functionality, service provision and sustainability (Franceys and Pezon 2010).

The focus of international development targets on extending coverage has led to a de-prioritization of sustaining services for those already covered. There are many examples of built but non-operational services, as well as subsidized services not reaching those who need them most (Carter et al 1999; Franceys and Pezon 2010; Garrett and Slaymaker 2011). A 10-year evaluation of the World Bank support to the water sector concluded that sanitation provision was generally not satisfactory: “Connection targets in projects are generally not met, and (the review team) has seen a number of treatment plants functioning below design capacity because households have not connected to the systems, in part because willingness to pay has been overestimated and facilities have been overdesigned. This [...] highlights the particular weakness of sanitation institutions, which will continue to constrain progress until their capacities improve” (World Bank 2010, p. 80).

The World Bank findings bring to light the challenge of balancing the twin economic objectives of efficiency and equity. In neoclassical economics, subsidies and government intervention should be avoided unless strongly justified, as they lead to distortions in the market and do not necessarily achieve their desired aim. It is argued that, although sanitation subsidies may generate incentives to extend service coverage to the poor, they do not lead to efficient service provision. Studies suggest that the poor often do not benefit from increased coverage (Mehta 2003). This requires special measures for demand promotion, improved targeting and cross-subsidies (Evans et al 2009). Where a regular sanitation service is assured by a provider, it is crucial that the service is financially sustainable and affordable to all, including the poorest (Camdessus 2003). Hence, with the global trend toward cost recovery for public services, this has led to difficult debates on appropriate tariff levels. The question now is whether, through an outcome model, the altered method of subsidy delivery can lead to improved results, thus achieving both efficiency and equity goals.

In the field of sanitation, some approaches have increasingly focused on outcomes. One well-tried and tested approach is the contracting of private firms to deliver sanitation services under a concessionary agreement. The pre-condition for renewal of contracts is that minimum thresholds

for a series of performance indicators are met. Indicators selected tend to be process-based in nature. Some indicators such as customer satisfaction and meeting service norms, however, are often included and can be considered to be indicative of overall performance. Another approach, one more relevant for rural areas, is the community-led total sanitation approach, which aims at the open defecation free (ODF) status of communities. In this approach rewards are provided for achievement of and sustained ODF status. It should be noted that achieving ODF status is a first step on the sanitation ladder, but not the final objective.

3.4 Weak policy and regulatory frameworks

Camdessus (2003) emphasizes the key role of government policy in stimulating private sector participation through political prioritization, functioning legal framework, transparency in the award of contracts, fairness in tariff setting and avoiding unnecessary political interference. The weak institutional framework and financing policies, however, have resulted in the ineffective and inefficient use of existing resources in many countries (Mehta 2003).

While billions of taxpayer money has been spent on sanitation programs, all the elements to ensure quality and sustained sanitation service delivery has not been systematically provided. Similarly, the governments of developing countries have been slow in giving sanitation the attention it needs and have not promoted sanitation as a core national issue. Among the poorer nations in Asia, the policy environment remains weak, especially in several areas of water and sanitation, including annual sector reviews, monitoring and evaluation, civil society participation, investment planning, sector absorption of government and donor budgets, use of equity criteria in budget allocations and capacity building of human resources (World Health Organization 2012).

Regional and global initiatives have given greater prominence to monitoring the policy and enabling environment. A service delivery pathway methodology is now being applied in India, similar to the earlier Country Status Overviews in Africa. A similar methodology is in the process of roll-out in countries in SE Asia, under the World Bank WSP. The World Bank through the Public Expenditure Reviews have supported the collection and reporting of financial information, however, few have been conducted in Asia (van Ginneken et al 2011).³¹ The OECD has recognized the need for robust national financial plans and has supported the development of a financial planning tool called "FEASIBLE."³² This tool has been applied in countries of Eastern Europe, Central Asia and SE Asia (COWI 2009). UNICEF is in the process of piloting a new tool, the

31 According to this World Bank publication, five public expenditure reviews (PERs) were in the Europe and Central Asia regions, three were in the East Asia-Pacific region, and one was in South Asia. However, the authors state that many of these reviews comprised only a short chapter or section on water in broader national PERs, often including irrigation, drainage and water resources management. Outside sub-Saharan Africa, only three standalone water supply and sanitation PERs were found, in Mexico, Egypt and Lebanon.

32 FEASIBLE is a software tool developed by COWI (Denmark) to support the preparation of environmental financing strategies. For more information on the software, please visit: <http://www.cowi.com/menu/project/EconomicsManagementandPlanning/FinancialAnalysesandlaw/Pages/feasiblemodel.aspx>.

“Bottleneck Analysis Tool” for the WASH sector, to be applied at national, sub-national, service provider and community levels.

The sanitation sub-sector is definitely beset by a number of problems related to strategizing the best way to spend limited funds. The paucity of data on the current financing flows to sanitation compiled at national and international levels exacerbates the issue (World Health Organization 2012). The current delivery model paradigm, the ‘input’ model, remains dominant in both donor and government projects and programmes. While programs supported by development banks such as ADB and the World Bank have more robust project planning stages as well as monitoring and post-project evaluation, these are still in the minority. Governments themselves very rarely conduct robust impact evaluations of their programs. Some donors are switching to ‘output’ based models, and initial evaluations indicate its potential at increasing spending efficiency and equity (Mumssen et al 2010; Trémolet 2011). The deficit in available funds for investment in sanitation systems, explained partly by the weak demand (low willingness or ability to pay) of the unserved populations, also pose a challenge to the sanitation sub-sector. Together, these limitations in funds and the current delivery mechanisms open the opportunity to consider a new paradigm for the finance and delivery of sanitation services.

4

How “financing for outcomes” paradigm might work for sanitation

4.1 “Financing for outcomes” paradigm overview

As presented in previous chapters, the current paradigm of top-down fragmentary aid delivery mechanisms by donor agencies and foundations is incapable of bridging the sanitation gap in Asian developing countries. Under the traditional modalities of aid financing and delivery, the interventions of the public sector are insufficient for the scale of the global sanitation challenges. Constraints to private sector development, covered in section 3.2, are still significant barriers to successfully attracting private capital using traditional market mechanisms. Compounded with the structural issues of aging populations and burgeoning youth populations in developing countries, as well as the other development challenges, it is clear that new solutions and new sources of capital are needed. A paradigm shift is no easy task given the entrenchment of current approaches as well as differing objectives, cultures and metrics of success across the government and corporate sectors.

Various initiatives are emerging to attract private financing to public issues. There is President Barack Obama's rural jobs creation plan,³³ UK's social impact bonds (SIBs)³⁴ and the Inter-American Development Bank's poverty reductions bonds.³⁵ A recent development of particular relevance at the international level is the Hague Framework, which is based on two meetings convening 70 senior representatives from various sections of the development community.³⁶ The Hague Framework specified a systems approach to development based on the delivery of tangible outcomes, termed *COILED*, which is further discussed in the subsequent sections. The Tallberg Declaration within the Hague Framework challenges governments, together with development financing institutions and the private sector, to use their convening power to develop innovative, catalytic and efficient policies and instruments. The Declaration identified the clear opportunity to leverage both public and private sector resources for mutual objectives of developing markets in services and products to meet humanity's basic needs.

4.2 Key elements of the COILED model

The last 10 years has seen an increase in a number of innovative solutions to development issues. Most of these solutions are driven by civil society through increased visibility of social entrepreneurship and a financing trend called impact investing. Innovations are often seen in isolation, but together, they offer even greater opportunities.

The creation of collaborative partnerships, specifically focusing on outcomes with real social impact, is another rising trend in addressing development-related problems. For it to work, all the players need a clear understanding as to where infrastructure, innovation and core skills can be applied to have the greatest effect. Building an incentive structure based on the delivery of tangible social outcomes is also necessary. Sectors need to work collaboratively rather than in their own "silos" of development.

The current innovations can be captured under the "COILED" approach, which was first elaborated under the Hague Framework (Wood et al 2011). Figure 10 illustrates the various components of COILED. The approach identifies the new Capital market tools for development based on achieving real tangible Outcomes, structured by Intermediaries with the skill to apply the new financial innovation to the needs of "blended" capital sources. Legal structures ensure

33 The Obama Administration established a rural "carve-out" in the Small Business Investment Company Impact Investment Program that will invest in distressed areas and emerging sectors such as clean energy. Small Business Administration (SBA) will provide up to a 2:1 match to private capital raised by the fund. For more information on this program, one may visit: <http://www.whitehouse.gov/administration/eop/rural-council/policy-initiatives>.

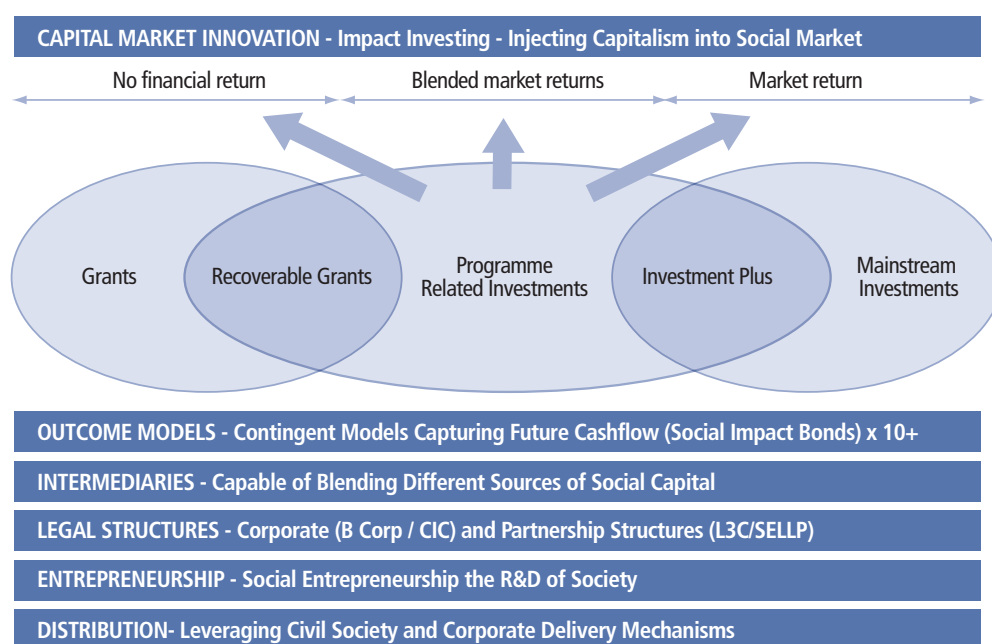
34 Social Finance launched the first Social Impact Bond (SIB) in September 2010, called the One* SIB, in the criminal justice sector. For more information on this bond, one may visit: <http://www.socialfinance.org.uk/work/sibs>.

35 In June 2010, the Inter-American Development Bank (IADB) issued its first poverty reduction bond. For more information on this bond, one may visit: <http://www.iadb.org/en/news/announcements/2011-01-14/adb-poverty-reduction-bonds,8989.html>.

36 The Dutch Ministry of Foreign Affairs and FMO (The Dutch Development Bank) in The Hague and the Tallberg Forum hosted the meetings held in March and June 2011. The meetings resulted in the Tallberg Declaration. The Declaration is downloadable from <http://www.totalimpactadvisors.com/blog/hague-framework>.

that the social mission is hardwired in its engagement with the commercial sector so there is no fundamental contradiction between doing what is beneficial and making money. The approach also applies incentives and dynamism of local Entrepreneurship to social solutions, which can be delivered in various scales through new Distribution mechanisms. The distribution is enabled in many cases by new technology, civil society or new collaborative hybrids. As shown in Figure 10, different sources of financing are combined in blended market returns, signifying that different returns to different financing sources can be paid within the same structure. The blending of these factors, therefore, provides the real opportunity of outcome models. Each of these elements is described with reference to sanitation.

Figure 10. A Move to outcome models across the investment spectrum using COILED.



Credit: Wood / Bates Braithwaite / Hodges / Hague

4.2.1 Capital structures

New capital structures cover a broad range of financing sources and mechanisms, from mutual funds to micro-credits to so-called hybrid structures such as SIBs. Social finance or impact investing involves the injection of modern capital market tools applied to social purposes. In other words, it requires the transition from a market traditionally defined by a grant/aid model to one defined by the use of capital market structures for social causes. Five of the major potential financing sources are summarized in Table 3.

Table 3. Potential value of five different financing sources.

Financing source	Potential value	Notes
1 Social private equity and venture capital	USD 1 trillion	Identified by JP Morgan in five development sectors
2 Mission-related investment	USD \$120billion – \$500billion	Core US Foundation Funds are \$1 Trillion. Currently only 2% are in MRI. The attached figure is based on 20% allocation and then leveraged three times
3 Program-related investment	USD 45 billion	Total US Foundation giving is \$45bn – Average Foundations allocate 2% to PRI
4 Local pension funds	USD 1.5 trillion	Guarantee model (e.g. AMF)
5 Structured product such as social impact bonds / Development Impact “Bonds”	USD Multi-billion	Monnetising Externalities – Annual value for sanitation – USD 100 billion in Asia

Social Venture Capital and Social Private Equity capital markets. According to JP Morgan, a leading financial services firm, social venture capitalism is potentially a USD 1 Trillion market. In 2011, JP Morgan conducted an analysis that identified the possible scope of the social venture capital and private equity market (Table 4). With sanitation’s close relationship with the delivery of water services, it is pragmatic to consider sanitation as part of affordable housing, which has, by far, the largest potential market, with annual profits of up to USD 648 billion (JP Morgan 2010).

Table 4. Potential invested capital to fund selected Bottom-of-Pyramid (BoP) businesses over the next 10 years.

Sector	Potential investment capital required (USD billion)	Potential profit opportunity (USD billion)
Housing: affordable urban housing	214-786	177-648
Water: clean water for rural communities	5.4-13	2.9-7
Health: maternal health	0.4-2	0.1-1
Education: primary education	4.8-10	2.6-11
Financial services: microfinance	176	Not measured

Note: Information generated from JP Morgan (2010).

In the asset management business, USD 1 in every USD 8 is estimated to be invested with socially responsible strategies.³⁷ This value is generated using negative screening, which

37 The authors generated these estimates based on the following reports: (i) Social Investment Forum Foundation. 2011. *2010 Report on Socially Responsible Investing Trends in the United States*. Accessed 18 April 2013. http://www.ussif.org/files/Publications/10_Trends_Exec_Summary.pdf
(ii) Total Impact Advisors. 2011. *European Impact Investing Market*. San Francisco, USA: Total Impact Advisors.

involves excluding certain companies or sectors. However, positive screening driven by socially responsible asset management of high-net-worth individuals is one of the fastest growing segments of the asset management business.

Micro-finance is another potential market area that results in social impact. The Grameen model of micro-finance is a classic example of a highly successful application of a commercial banking model that incorporates social impacts by providing loans to women. Investments by Microfinance Investment Vehicles (MIVs) grew over 639% from 2004 to 2007, and by December 2008, there were 103 active MIVs with an aggregate portfolio of USD 6.6 billion (Burand 2009).

Investment banks, such as UBS, Morgan Stanley, Goldman Sachs and Deutsche Bank, are taking the opportunity to apply their organizations' capital market skills to address the inefficiency of the market to make investments on social goods. Their interest is moderated by a market that has high due diligence costs, reputational risks and a lack of scale. The not-for-profit paradigm, where there is no leverage, highly contrasts where the current state of the for-profit world, where there has been significant over-leverage and we are now experiencing the impacts of deleverage.

Mission-related investment. In mission-related investment (MRI), foundations invest its core funds in social mission. At present, the Total Global Foundation funds are estimated at USD 1 trillion globally with USD 600 billion of which come from the USA (JP Morgan, 2010). However, only around 1 per cent of those core foundation funds are actually aligned with social mission, what is called MRI. The Heron Foundation and the KL Feliciatas Foundation are considered leaders in supporting social missions through the application of MRI. These organizations have argued that core funds should be aligned to a greater extent with social mission and argue for up to 100% allocation to MRI. This could offer a substantive opportunity for new funds in the social capital marketplace. Just a 5 per cent asset allocation of foundations into MRI would unleash around USD 30 billion of investment in impact investing, an amount equivalent to all venture capital start-ups in the USA. A 10 per cent allocation would release USD 60 billion and, if done between now and 2020, would equal just a 1 per cent change annually in asset allocation policy of the foundations.

It should be noted that the cost to the foundations would not be the total amount but rather the interest rate differential on the income between a normal portfolio and a mission-related portfolio. Thus, at a 20 per cent allocation releasing USD 120 billion, the cost would, assuming a 1 per cent return lost on the MRI portfolio versus an core portfolio, be about USD 1.2 billion. It is worth noting this assumes there is an opportunity loss. For example, some benchmark SRI portfolios have actually outperformed the S & P over thirty years. Furthermore, the USD 120 billion could be structured within a low-profit limited-liability company (L3C) framework (see section 4.2.4), thus leveraging other substantial private capital into the market and espousing efficiency, economies of scale and corporate expertise into the social capital

market at three times leverage that would release nearly \$500bn. So for an opportunity loss of \$1.2bn (per 1% income loss on 20% of their current portfolios) the Foundations with creative funding could leverage \$ 1/2 trillion. According to the US Congressional Budget Office, when such a methodology was applied to affordable housing in the USA through the Community Reinvestment Act, it was neutral to mildly revenue-negative as a budgetary calculation. However, when the opportunity cost of this social action is considered or there is a firm linkage to an SIB-type structure, the revenue becomes potentially positive for the government, as the tax paying corporate sector is engaged in the provision of social goods, which is a critical consideration during fiscally challenging times.³⁸

Program-related investment. Program-related investment (PRI) can be used to leverage private capital US Foundations give away – a total estimated value of USD 45 billion. Currently, PRI accounts for only 2% of the global allocation of this capital within the USA. In 1969, the United States (US) Congress passed the PRI laws to amend the Internal Revenue Code and create a new category on foundation expenditure called a PRI. Under Section 170d of the US Internal Revenue Code, foundations are allowed to make for-profit investments from the 5 per cent of their budget which under US law has to be allocated to grant expenditure. This means that foundations can apply the investment to debt equity and other investments with a for-profit return rather than just grants. These investments must have definable social objectives (defined and policed by the Internal Revenue Service [IRS]) and the investment must be sub-market³⁹ at point of entry and clearly higher risk than the commercial market will fund. It should be noted that this does not preclude foundations from making money and collaborating with profit players. Only at the outset should these structures need to be higher risk and sub-market at the outset. Paradoxically, this provides subsidized capital for “for-profits” willing to bring their expertise and capital to bear for social purpose. The structure works, indeed there are many examples, and, when combined with a limited-liability company (LLC) similar structures have generated billions in US affordable housing.⁴⁰ One recent innovation has been the L3C which is simply a combination of the PRI and the LLC, allowing (1) the application of modern capital market tools to social ventures; (2) the creation of structured cross-subsidization between economic and social mission and (3) a legal framework for the application of multi-stakeholder and multi-return models with social mission.

The challenge at present is that PRI represents less than 2 per cent of total foundation funding, with larger foundations such as the Bill and Melinda Gates Foundation investing around

38 For more information on the concept of revenue negative and revenue positive as well as the Community Reinvestment Act, one may check the following report: Ludwig, Eugene, and others. Not Dated. *The Community Reinvestment Act: Past Successes and Future Opportunities*. Accessed 18 April 2013. http://www.frbsf.org/publications/community/cra/cra_past_successes_future_opportunities.pdf

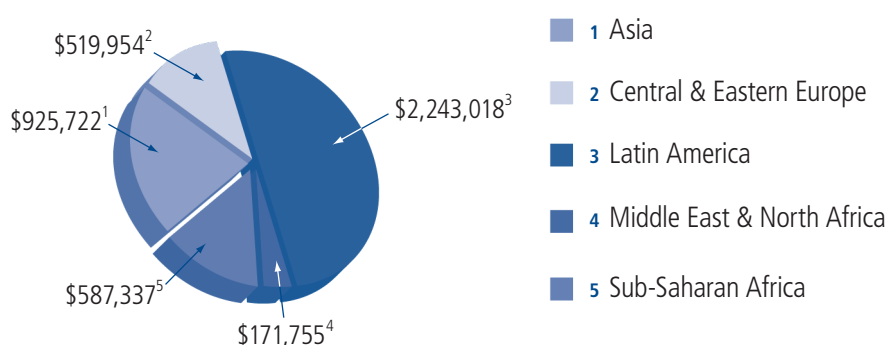
39 Sub-market here means that the investment does not have a commercial rate of return (i.e. it could not be funded commercially). Section 170d of the US Internal Revenue Code provides an extended definition. The IRS recently issued new guidelines on PRIs, which can be downloaded from the following link: <https://www.federalregister.gov/articles/2012/04/19/2012-9468/examples-of-program-related-investments>.

40 Personal communication with the President of Stewards of Affordable Housing.

6–8 per cent. The IRS issued new PRI guidelines in 2012 as to how these can be utilized and structured with private sector players in support of foundations venturing into more PRIs. It is hoped that this will result into leveraging of new private sector capital into the market and leveraging foundations' own funds.

Levering local capital markets for local development. The current thinking reflects the post-independence world of the 1960s and 1970s, when local capital markets were not developed and the only source of capital was from external sources. This cycle of capital dependency and currency risk/fluctuation has been the history of post-World War II development. For many years, however, the World Bank has encouraged the development of the local savings markets so that substantive funds are now held in local currency in developing markets. Using World Bank,⁴¹ OECD⁴² and FIAP⁴³ analyses, which have been validated by a similar research from JP Morgan,⁴⁴ it is estimated that there is now a total of USD 5 trillion in Developing World pension funds, insurance company assets and mutual funds. In 2010, these funds were broken down into: USD 1.8 trillion in pension fund assets, USD 0.9 trillion in insurance company assets and USD 1.7 trillion in mutual fund assets, which totals to USD 4.4 trillion assuming a median growth rate from 2003 to 2010. Keeping the same assumption, this amount is estimated to grow to USD 5 trillion in 2013 with USD 925 billion of which is in Asia (excluding China). The regional distribution analysis is available from the Ascending Markets Financial Guarantee Corporation (AMF)⁴⁵ and is shown in Figure 11. In addition to these funds, there is an additional USD 8 trillion in bank assets, of which USD 2.4 trillion is in Asia (excluding China) (see Figure 12).

Figure 11. Value of pension funds, insurance companies and mutual funds in the developing regions (excluding China) (USD million).



Note: Copied from AMF (not dated), available at: <http://www.amfguarantee.com/>.

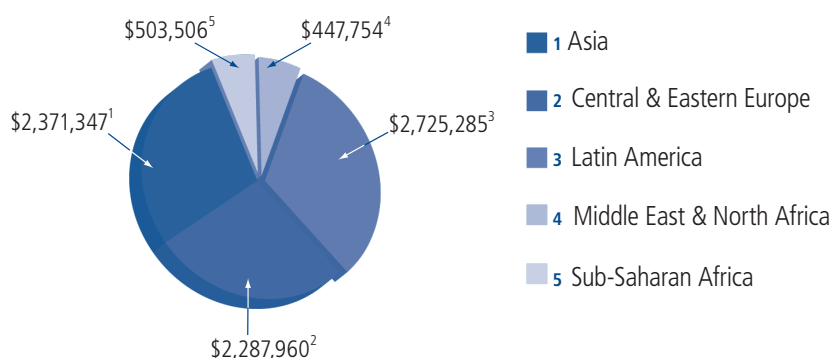
41 World Bank. 2013. "Global financial development." Last modified April 2013. <http://data.worldbank.org/data-catalog/global-financial-development>.

42 Laboul, A. 2011. "Pension markets in focus." Last modified July 2011. <http://www.oecd.org/dataoecd/63/61/48438405.pdf>.

43 Federación Internacional de Administradoras de Fondos de Pensiones (FIAP). 2013. "FIAP." http://www.fiap.cl/prontus_fiap/site/edic/base/port/series.html.

44 JP Morgan. 2010. "EM moves into the mainstream as an asset class". *Emerging Markets Research*, November. Accessed 18 April 2013. www.morganmarkets.com.

45 AMF is a financial guarantee entity. It won a Bill and Melinda Gates Foundation and World Bank prize for innovative financing ideas. For more information about AMF, one can visit: <http://www.amfguarantee.com/>.

Figure 12. Value of bank assets in the developing regions (excluding China) (USD million).

Note: Copied from AMF (not dated), available at: <http://www.amfguarantee.com/>.

Figures 12 and 13 clearly demonstrate that there is a substantive market for local development. While many of the savings are located in larger developing nations, there are potential capital resources in smaller and poorer nations. For example, in 2010, Ghana had over USD 1.6 billion in its pension fund, which was growing at 20 per cent annually. These are not aligned as the local pension rules require Investment Grade opportunities which the local economies do not possess. Hence the capital is locked in.

By using a US guarantee structure, local capital in the local savings market can be realigned for the development and this will result in transformative impacts domestically. What is more, one that takes out over 80% of the current development risk – since one would now be funding local currency to local currency. There has been some movement toward creating guarantee structures. However, at present, this has been either in smaller scale or capitalized to an extent that makes the financial model ineffective.

The utilization and adoption of the “monoline” model (with substantive safeguards) allows for the realignment of local currency capital markets invested in support of the developing countries “essential” services (e.g. hospitals, sanitation, water supply and education). This strategy, historically, has the significant elements of the implementation of the pre-Bretton Woods framework, where four to five times as much relative equity and debt capital was deployed to the developing world. This is also the same structure that America has used for the development of its own infrastructure for 40 years. At one per cent of the pension funds asset alone, this would shift more development capital than the Bill and Melinda Gates Foundation has in five years and more capital than all the development finance institutions in 10 years. There are moves to create an entity that would enable this – the AMF is currently being developed with the support of OPIC, a global drinks company and five development finance institutions. Assuming it gets established, the substantive development impact would include: (a) supporting various infrastructure, housing, health care, education and microfinance projects and (b) strengthening the local currency bond and bank loan markets in the target nations.

Social impact bonds/Development Impact Bonds. This financial product is gaining important traction in both the USA and UK, with fourteen projects now launched and about USD 500 million worth of structures created. SIBs are not restricted and can be applied to any social issue in which there is a clear identifiable and auditable metric set. In its more sophisticated iteration, the SYON, it facilitates a move towards full multi stakeholder outcome models. The following are the elements that should be understood about SIB (and its International iteration a Development Impact Bond – a DIB).

- SIB is not a bond as traditionally understood but is in fact what bankers would call a “structured product.” Indeed, SEC rule 424 is a virtual definition. It utilizes a contingent return model in which the return is a function of the tangible outcome created: the higher the social impact is, the higher the financial return to the investor. In this sense, it actually is more like equity: the higher the social impact is, the higher the internal rate of return.
- SIB creates a multi-tiered structure in which the government or a corporate player offers a contingent payment to an investor based on the savings or benefit that will be created by a social sector intervention. In turn, the investor invests in the social sector intervention with his/her return determined by how quickly and effectively that social intervention delivers social impact. The quicker the delivery is, the higher the return, thus incentivizing innovation.
- The private sector capital market bears the capital risk. The government or corporate player only pays out on the basis of tangible social outcome (see section 4.2.2). The implementing organization (the social entrepreneur or civil society) has access to long-term funding and does not have to spend its limited resources in fund-raising. Investors who are keen to see the delivery of the social outcome inject the discipline of the market into the delivery of the tangible outcome, and if successful, they will make a return.

It is worth noting that the market is the value of the social benefits generated and not of the inputs (costs) required to generate them. In the case of sanitation, that is estimated for non-OECD countries at USD 140 billion annually. Of this value, USD 100 billion is from Asia alone (Hutton 2012). Section 4.3 elaborates on the social benefits.

Exciting opportunities arise in the blending of financial and legal innovations noted. The combination of the two structures, SIBs and the new legal hybrids, provides additional benefits to stakeholders and creates a clearer framework for cross-sectoral outcome models. With some simple financial engineering, called “securitization”, one creates a financial equity whose value is a function of the social return it delivered. Therefore, social equity has a financial equity value. This would create a secondary market, providing investors a liquid market based on the delivery of social outcomes. This equity could be shared out to all stakeholders, with different players taking differing returns over the product life cycle. This is covered in more detail later in the subsequent sections (see section 4.2.4).

The potential opportunity that this opens up is that the core funds of foundations currently valued at USD 1 trillion could be utilized for social investment. It is interesting to note that of the 17 investors of the original SIB in the UK, 70 per cent of Foundation Investors choose to place this investment on their core funds and not the grant account. This is an exciting development, but much work still remains as to the context into which they deliver outcome models and the long-term implications on the development of markets for SIBs. Some of these issues are discussed in the rest of the COILED framework. The benefits to those stakeholders are described below.⁴⁶

Benefits to the corporate sector:

- Clear, defined mechanism and financial incentive to bring the corporate sector into the philanthropic market – now viewing it as a “bottom of the market” opportunity.
- Access to new markets and new research and development.
- Opportunity to apply new financing mechanisms to this market.
- Potential to extend the concept of SIBs to the corporate sector, where the commercial value of a social intervention can be identified.

Benefits to the social sector:

- Access to new resources/solutions and more sophisticated financing solutions, but with the social mission hardwired into the structure.
- Empowers the community and social entrepreneurs to be a stakeholder in the product development cycle, as opposed to the current system, which disconnects them from the downstream economic benefits that are created.
- Empowers civil society to implement new approaches and models.
- Civil society will no longer need to engage in highly inefficient funding structures, but will have access to long-term funding based on how potential impacts are created.

Benefits to the government:

- Easy and cheap-to-replicate SIBs across sectors and government.
- Both the legal and financial vehicles should be cost neutral to have a positive effect to the Treasury. This is based on US congressional analysis of the Community Reinvestment Act (CRA) structure in the US housing market.
- The government, as a major outsourcer of social services, benefits from the economies of scale driven into the sector and the focus on deliverable outcomes with agreed timelines.
- Transparency - simple structures to audit and control if governments were cognizant to place tax credits against the structures.

If one considers social entrepreneurs as the research and development of society (see also the green debate on encouraging and scaling innovation), then countries are given the ability

⁴⁶ Wood, A. 2011. “How the market can turbo charge social impact bonds.” Last modified September 6. <http://www.socialenterpriselive.com/section/social-investment/money/20110906/how-the-market-can-turbo-charge-social-impact-bonds>.

to leverage philanthropic resources as a source of long-term competitive advantage. The opportunity to create not only cross-sectoral collaboration but also clearer and more focused collaboration between countries. Lawyers, including leading US and UK lawyers in philanthropy (Marc Owens and Stephen Lloyd), have validated the feasibility of this concept.

The American Bar Association's Tax Committee wrote in February 2010 to the IRS Commissioner and the Deputy Secretary of State to argue that, just as rule 501c3d legitimizes the use of a grant as a charitable finance tool that in the same sense that Rule 170d of the IRS code is applicable to PRI, which legitimizes the full range of capital market tools (including international development and contingent return) for charitable and philanthropic purpose. In turn this was reflected in the revised IRS PRI terms issued in 2012.

Types of Investors in Impact Investing. Table 5 presents a summary of the different types of impact investing. The more innovative and earlier stage investors are presented first on the left. Later stage investors are presented on the right side.

Table 5. Summary of different impact investors and their primary goals

High-net-worth individuals	Development finance institutions	Foundations	Values-and-faith-based organizations	Retail investors	Corporations	Public institutional investors/sovereign funds
Primary goal						
Applications of business principles to philanthropy	Achieve both financial and developmental results	High social impact with the discipline of an investment	Consistent with social values	Social impact - donations	Corporate social responsibility programs	Deployment of set percentage of capital in socially responsible manner
Risk/return						
Moderate to high risk; willing to take more risk for social impact, but expecting a return	Moderate risk; need to preserve institutional stability, but often "funding of last resort"	Moderate to high risk; sometimes can forgo return for social impact	Low risk; may be willing to trade off return for social impact, but seeking safe investments	Low risk, because by law, vehicles available to retail investors cannot be too risky	Moderate to low risk; not willing to take inordinate risks outside core business	To be determined (still not clarified)
Examples						
Bob Johnson, John McCall MacBain, George Soros	OPIC (USA), IFC (World Bank Group), FMO (Netherlands), Proparco, DEG (Germany)	Rockefeller, Kellogg, Gates, Skoll, Omidyar, Google	TIAA-CREF, Thrivent, MMA Praxis Mutual Funds, GuideStone, Amana, Saddleback	Donors to Calvert Community Investment Notes, Microplace, Kiva	Cisco, Storebrand, Shell, Chevron, Starbucks	CalPERS, Government Pension Fund of Norway, Abu Dhabi Investment Authority

Notes: (i) Compiled by authors from information from Total Impact Advisors.

(ii) OPIC: Overseas Private Investment Corporation; DEG: German Investment Bank; FMO: Netherlands Development Bank; IFC: International Finance Corporation; TIAA-CREF: Teachers Insurance and Annuity Association – College Retirement Equities Fund.

In addition to attracting capitalists who want to do “good”, impact investing also attracts philanthropists who are interested to leverage their capital by creating financing vehicles that did not exist before. Some philanthropists also develop for-profit investment funds to complement their grant making. This trend is being followed closely by private banks such as UBS, Credit Suisse and JP Morgan, who are attracted to this market because of the massive ongoing wealth transfers from the ultra rich. This trend is combined with the interest of some philanthropic foundations, such as Gates, Omidyar, Skoll and Atlantic Philanthropies, to explore innovative models and actually give all their wealth away in their lifetimes. The other driving factor for banks is that high-net-worth individuals (here defined as individuals controlling more than USD 20 million in personal assets) tend to rationalize the number of financial providers. Philanthropic investment funds therefore, to a private bank, are key instruments in controlling client mind share as assets are transferred from one generation to the next, in what will be the largest transfer of wealth in human history.

In terms of impact investing, one can see a clear trend toward the application of many modern capital or commercial tools, which offer clear opportunities. There is, perhaps, an over-emphasis on bilateral social venture capital and private equity models. Other tools such as Structured Product noted here (SIBs and DIBs) ultimately create the opportunity to create multi-stakeholder, multi-return models. A number of these other impact investing models could be applied to sanitation.

4.2.2 Outcome models

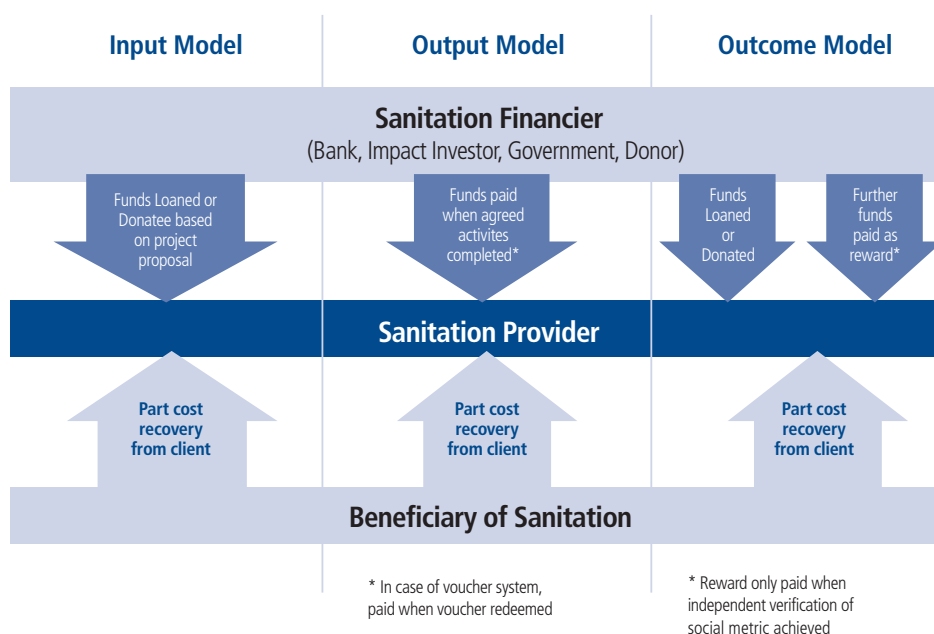
There are three models of viewing development projects:

- **Input models.** Funds are allocated and spent on the agreed infrastructure requirements and supporting components based on a budgeted project proposal. This model usually involves pre-financing by the financing agent (upfront payments). In this model, where there are inadequate control mechanisms in place, there is a risk that the end product does not comply with what was specifically required and there is a potential for funds being siphoned off.
- **Output models.** This model gives a greater focus on the effective delivery of programs. The funding process tends to be bilateral. OBA uses performance-based grants to support the delivery of basic services to poor households that have traditionally been left out or that have been provided with poor quality service. The aid bridges the gap between the total cost of providing a service to a user and the user’s ability to pay the cost. Unlike traditional subsidies (i.e. input models), aid under this model is given only after successful completion and inspection of the service (output). A service provider initially pre-finances the cost of installing the service, with counterpart from the targeted customers.
- **Outcome models.** In this model, the financial incentive is based on the delivery of tangible, auditable social outcomes through collaborative multi-stakeholder frameworks.

The United Nations MDGs were the first practical steps toward identifying outcome solutions. This means that the MDGs are concerned, for instance, not on how many programs are launched and implemented but rather, how many children are saved or how many are educated. The paradox is that although there is a consensus around the outcomes desired and favored “collaborative partnerships” (MDG 8), many of the tools used to deliver these outcomes and collaborations are based on utilizing bilateral input- or output-based financial tools and structures. As noted earlier, this unfortunately creates fragmentation and an incentive to not collaboratively work together.

Figure 13 illustrates the main difference among these three models. As indicated, the main difference is the basis for the payment as well as the extent to which the mechanism ensures that an appropriate and high-quality service is delivered to the target population. A voucher scheme is considered as a sub-type of an output model given that outcomes are not being measured.

Figure 13. Comparison of financing flows of input, output and outcome models.



Over the past five years, new innovative financing and legal concepts along the lines of the COILED framework started to commence. With the emergence of these financing innovations comes the recognition that multi-stakeholder solutions (rather than bilateral ones) based on genuine “empowered collaborative partnership” offer the opportunity to move toward true outcome models to deliver the United Nations MDGs. This move toward outcome models is now facilitated, in part, by SIBs, as described in section 4.2.1.

There are two key factors associated with the success of an outcome model. The first is the audit mechanisms that trigger payment for achievement of the outcome itself. The second is the way in which those involved in service delivery collaborate or work with each other and from a policy perspective how the social mission is hardwired.

Intra- and inter-sectoral collaboration cannot be achieved simply by goodwill and innovation. The purpose of the audit mechanism is to measure and confirm social outcomes, which essentially means that “what gets measured is what gets done.” It is critical that the social metric is appropriately selected⁴⁷ and that there is independent auditing of the metrics since payment will be contingent on that analysis. In addition, other independent safeguards need to be built-in into the system.

Examples of such structures include:

- 1 A community feedback mechanism, for instance, can validate and, to some extent, regulate the direct impact on the ground.
- 2 Developing technologies such as the World Bank App. for development – developed with the Massachusetts Institute of Technology (MIT) and first issued in June 2010 – allow real-time metric analysis.⁴⁸ A key element in all of these is retaining independence both financially and structurally (e.g. where the auditor is hosted).
- 3 A proactive role. For multilateral agencies and academic institutions who also play a critical role through the research in the area of health and sanitation metrics. In the UK and US, this mechanism has strengthened the auditing of impact.
- 4 At the individual deal level. At the bilateral level, hybrid entities such as the Community Interest Companies (CICs) in the UK or the Benefit Corporation (B-Corp) in the USA regulate social venture capital and private equity models.
- 5 Robust metrics process such as the Global Impact Investing Rating System also conducts regulation of the capital and equity. In some cases, some foundations such as the Heron Foundation or the Aga Khan Development Network have been involved in impact investing models for many years and have also developed robust and independent metric analysis on the projects they have supported.
- 6 In the for-profit models of social impact involving development financiers, there are mechanisms that can be placed into the structure that guarantee the social mission. This mechanism may include restriction on the investment to particular sub-group or hardwiring the social mission into the mission, shareholding and Articles of Memorandum as in AMF or where, for example, the Department for International Development (UK) does this with the Commonwealth Development Corporation by allocating funds targeted to qualifying regions only.

⁴⁷ It should be SMART – specific, measurable, achievable, relevant and timely or time bound.

⁴⁸ For more information on development-related applications, one may visit: <http://wbi.worldbank.org/wbi/news/appsdev-winners-announced>.

Aggregation mechanism. A critical question for the social sector is the question of who exactly is the Intermediary doing the aggregation of the players required under an outcome model. The complexity of the outcome model is not ultimately in the financial engineering but in the aggregation of the players to deliver the social outcomes. Intermediary and legal safeguards must be structured in an equitable manner. Recent history warns us that we should be cautious of how exactly, banks are engaged in this market. The outcome model is also a function of any financial product development process, wherein the critical question is not how a financial product will perform under the status quo assumptions but rather a question of how will the risks be managed and who it falls on. The Critical question is, in essence, in a multi-return model – who gets the benefits and who takes the risks – and who is making that judgement and how is the Social Mission guaranteed.

There are a number of aggregation models in play, and in reality, an amalgam of them is probably the best solution. The current models include the Goldman Sachs/Bloomberg model in the issue of recidivism, adapting the McKinsey cost curves to create a three-tier cost curve model proposed by the World Sanitation Financing Facility (WSFF) described below in Section 4.3, the Social Finance model also in recidivism similar to the Goldman model, and the Ashoka Changemaker competition which implicitly creates a collaborative framework. Each model has different costs, compliance and control implications. The desirability of each aggregation process will depend on the issue, location, baseline infrastructure and support. The critical point to note is that it will need to be an iterative process between the partners. This report reviews the process and the logic that was designed for WSFF.

4.2.3 Intermediaries

As noted earlier, the role of new or adapted intermediaries is critical both for bilateral impact investing and certainly for the more complex outcome models. The move from a bipolar grant world (in which the multilateral and bilateral agencies and the foundations serve as the intermediary) to the application of a plethora of financial and commercial tools for social purpose requires new intermediaries that have expertise in how to blend different types of capital. The intermediaries' primary purpose is to facilitate social impact as well as to ensure that cash flow is maintained or to use social sector language sustainability. The role of these new intermediaries is to act as the agent between the stakeholders – the providers of finance on one hand and the social entrepreneur or implementer (delivery agent) on the other hand. The reward for the intermediary is in the form of social and economic impact it creates.

Ensuring the social mission of the intermediaries is critical, as it encourages local (specifically youth) entrepreneurship and it maintains the social focus when blending different capital sources from the private sector, philanthropic sources and government. Incentives should support organizations committed to social mission especially in the field of sanitation provision.

In this respect, connections to local participants are imperative to engage local communities as empowered stakeholders.

Evidence shows the need for four intermediary players in the funding and scaling of innovative solutions. These players include:

- 1 An entrepreneur who has the vision and drive to apply a vision of how business solutions can be applied to a social objective.
- 2 A social sector intermediary who has credibility and the ability to ultimately scale a series of impact investing solutions in support of their own mission. In sanitation, UNICEF, WSP, United Nations-HABITAT and the Water Supply and Sanitation Collaborative Council (WSSCC) (through its Global Sanitation Fund) are examples of such organizations. There is a growing trend of organizations proactively looking for impact investing solutions.
- 3 A social finance intermediary. In blending different sources of capital – government capital, venture capital, investment banking, grants and social capital – an entity that understands the whole social capital arc is required. Equally, where a social entrepreneurial solution is applied, the social finance intermediary understands better how the commercial dynamics play through and thus ensures that the social objective is paramount. Examples of these entities in different sectors include Light Years SP in intellectual property and Roote Capital Fairtrade in agriculture.
- 4 For-profit partners or hybrid organizations that possess the ability to inject scale, expertise and capital. Their motivation may be corporate social responsibility (CSR), or it might be a desire to develop new “bottom-of-the-pyramid” models. Classic examples would include organizations such as Danone or Unilever. In the finance sector, a plethora of organizations exist, with Deutsche Bank, JP Morgan and Citicorp being prime examples. The recent report issued by the World Business Council for Sustainable Development (WBCSD 2012), which included many leading companies, is worth noting. The report states, *“The WBCSD believes that the need for action is more pressing than ever. Vision alone is not sufficient. The role of business is to innovate and provide sustainable solutions; there is no shortage of innovation and capacity to do more. But sustainable business solutions can only create an impact at the speed and scale required by the transformation, if the right mix of policy initiatives provides the right incentives to break the lock of business-as-usual”* (WBCSD 2012).

In addition to these four players, the government is a key actor, providing stability, financing credibility and upholding laws. With the new legal frameworks and financing vehicles, lawyers are a critical component of this solution. This is further elucidated in the next section.

4.2.4 Legal structures

There is considerable debate about legal frameworks for impact investing in the USA, UK and Luxembourg. Four specific legal structures for impact investing are briefly described below.⁴⁹ These legal structures include: (1) foundations; (2) Corporate structures: CIC in the UK and the B Corp in the US, under which B-corps and Certified B Corporations fall; (3) LLC and LLP frameworks; and (4) A Social LLP / LLC - L3C in the USA, which is equivalent to the social enterprise limited-liability partnership (SELLP) in the UK.

When viewed as a legal structure, a foundation (also known in the USA as a 501(c)(3) organizations) is essentially a close-ended investment trust that gives 5 per cent of its capital away for a tax break. Economically, it is an effective mechanism to allocate unleveraged, unannuitized capital at a negative 100 per cent return. The structure was invented around 1903 and crystallized in the American tax system in 1921 and eventually implemented for corporate purposes in 1935. It is a model that has been copied globally. This is the mechanism that allocates 98 per cent of all capital to philanthropic causes. The total global foundation assets are estimated to be around USD 1 trillion, with about USD 600 billion of which are in the USA. In the USA, about USD 45 billion is given away annually from the interest that comes from the standard for-profit instruments, which paradoxically can be at odds with the objectives of the foundation. A key question here is: "what if that capital was leveraged?" Section 4.2.1 provided a perspective on the funds that could be made available.

The CIC is the second structure. It is a new form of company that has been available in the UK since 2005. A CIC is like a normal company, but it also has to fulfill a community purpose, which is broadly defined. CICs have an "asset lock", which means that after paying a reasonable return to investors, all remaining surpluses have to be applied for social purpose. The asset lock means that in CICs, whether limited by shares or by guarantee, the directors cannot sell assets under the market value and staff has to be paid a reasonable remuneration. In contrast to charities, which normally have unpaid trustees, CICs can have paid directors.

The equivalent of CIC in the US structure is the B-corp.⁵⁰ The B-corp is a new class of corporation in the USA that creates a material positive impact on society and the environment. It redefines fiduciary duty to require consideration of non-financial interests when making decisions. A B-corp reports on its overall social and environmental performance using independent third-party standards. Maryland, Vermont, California and New York are the first states to pass B-corp legislation by giving entrepreneurs and investors an additional choice when determining which corporate form is most suitable to achieve their objectives. B-corp is in the legislative

49 Other types of legal structure are not described because they are deemed less relevant or more widely known. These structures include: Donor Advisor Funds (USA only), charities and NGOs, companies limited by guarantee, co-operative societies and community benefit societies (formerly called industrial and provident societies), mutuals (mutual building societies, mutual insurance companies, credit unions) and PPPs.

50 For more information on B-corp, please visit: <http://www.bcorporation.net/>.

process in seven other states. A Certified B Corporation meets rigorous standards of social and environmental performance by achieving minimum score on the B Impact Ratings System. It expands their corporate responsibilities to include consideration of the interests of workers, community, and the environment.

As the third structure, the LLC uses partnership law as opposed to corporate law. Created first in 1979, LLC is now widely used in the corporate sector. In the USA, four times as many LLCs are now formed as pure corporate structures. In UK, the first LLC was created about nine years ago, and there are now over 50,000 in existence. They are “look-through structures”, which means you have a number of different players in the structure and players who are taxed individually with compliance according to their individual legal status. In a classic LLC, it allows different players to take different economic returns out of the structure over the product life cycle of the enterprise.

A fourth structure, L3C, was legally created in 2007 and is a structure that adds a social dimension to a classic LLC. L3C is a combination of LLC with the terms of the PRI code⁵¹ enacted originally by the Congress in 1969. It includes a definable social mission with a compliance framework to the benefit of the social sector and is policed by the IRS. L3C allows different players to take different economic and social returns over the life cycle of the enterprise. This social purpose is achieved by ensuring that L3C is compliant with the IRS rules defining charitable purpose and governing the use of a PRI. L3C therefore allows one to have both for profits and not for profits in the same framework, each taking a different return. This means that there is no fundamental contradiction between a for-profit and a not-for-profit player as long as the objective of the entity is compliant with the relevant IRS code. This allows partnership and cross-subsidization, as long as the mission is philanthropic.

For social entrepreneurs, L3C means that they can benefit as a stakeholder from the downstream benefits of what they create by having access to for-profit capital/resources. For the company, L3C provides a clear legal framework of for-profit engagement in social causes or, as they would see them, bottom-of-the-pyramid markets. The L3C has instigated a debate within the American Bar Association about the allowable investment tools for a foundation under a PRI designation because L3C potentially extends a range of new capital market tools to philanthropic causes. As noted earlier, the IRS has issued new PRI guidelines in 2012. L3C is now a law in 11 jurisdictions (nine US States and two Indian Nations) and is currently under legislative consideration in 23 states.⁵²

51 A PRI defines a mechanism whereby for-profit capital market tools (debt, equity, contingent models) can be applied to social purpose and regulated under standards promulgated by IRS.

52 For examples of L3Cs, one may check the following link: http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=4305.

SELLP is the proposed UK version of L3C. It differs from L3C in the USA in that it proposes the use of the same regulatory framework as the UK CIC and has a golden share⁵³ to ensure social mission. The principle is the same as the CIC – it has a regulatory structure that allows for-profit instruments to be applied for social purpose. SELLP can create cross-subsidization between for-profit and social mission. It is therefore specifically designed as a social capital allocation tool rather than the brand advantages bestowed by a CIC or B Corp.

In relation to outcome models, the debate around the L3C structure is very relevant to how impact investing would be scaled. For instance, the US federal bill has been put on hold since the election. However, once it is picked up again in the legislature and is passed, it may be adopted across the USA. It can, under State law, already be applied in any State. The structure is applicable now, and over 800 L3Cs are in existence. These hybrid legal structures are also being examined in other international jurisdictions such as the Netherlands, Australia, Singapore and UK. In UK, SELLP, or an iteration of this called the structured investment vehicle, is part of the review in charitable law being undertaken currently in the UK. The structure also offers the opportunity to create international collaborations in both funding and structuring, which currently can be achieved only by very complex contract law processes.

There are a number of concerns regarding PRI that are worth noting. One issue is related to the compliance structure and its cost unless there is legislation passed at a Federal level or one that identifies a mechanism to ring-fence the risk (see the SYON structure). The current practical reality is that IRS charges a foundation USD 10,000 for reviewing a PRI but then takes 12-18 months to approve it, which delays the process of taking part in many financing deals, practically making it impossible to finalise commercial deals. The L3C written by the former head of the Exempt unit of the IRS is simply an attempt to template this process using existing law and regulation to facilitate these deals. The American Bar Association LLC Group views L3C as just another LLC. It should be noted that the Tax Group of the American Bar Association came out strongly in support of L3C and expressed this in a letter to the IRS Commissioner in 2010.⁵⁴ Indeed, provisions 11-13 of the new IRS code on PRI reinforce elements of the L3C structure.⁵⁵

The future – blending legal and financial innovation: Product design in impact investing is, by nature, complex because it combines many different agenda and interests. However, increase complexity brings opportunity to simplify the interface and usage. A further iteration of the L3C

53 A type of share that gives its shareholder veto power over changes to the company's charter. A golden share entails special voting rights by giving its holder the ability to block another shareholder from taking more than a ratio of ordinary shares. Ordinary shares are equal to other ordinary shares in profits and voting rights. These shares also have the ability to block a takeover or acquisition by another company.

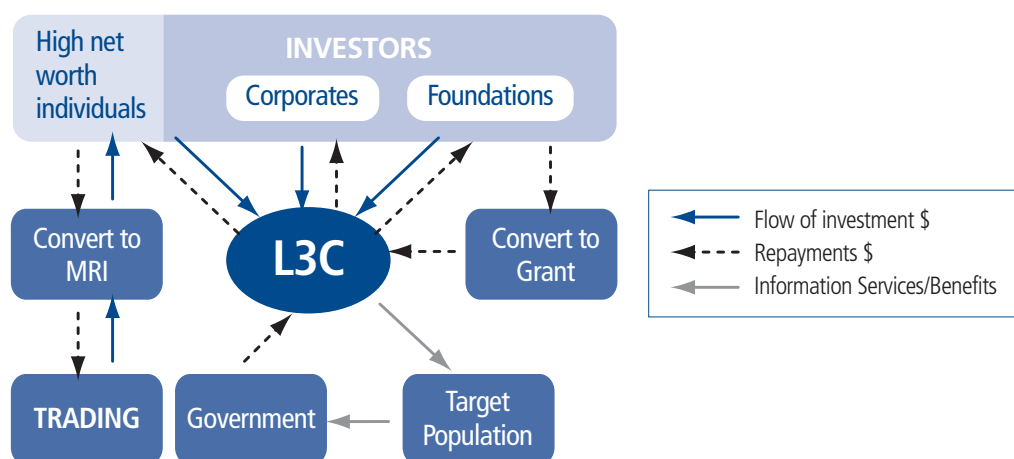
For more information on SELLP, one may consult the following article: Lloyd, S. 2010. "The Social Enterprise LLP – What Is It; And What Is It For?" Barrister Magazine. Accessed 18 April 2013. <http://www.barristermagazine.com/archive-articles/issue-48/the-social-enterprise-llp-%E2%80%93-what-is-it;-and-what-is-it-for.html>.

54 US Department of the Treasury. 2012. "Examples of Program Related Investments." Federal Register 77 (6). Accessed 18 April 2013. <http://www.gpo.gov/fdsys/pkg/FR-2012-04-19/html/2012-9468.htm>.

55 Field, A. 2012. "IRS Rule Could Help the Fledgling L3C Corporate Form." Forbes Magazine, May 4. <http://www.forbes.com/sites/annefield/2012/05/04/irs-rules-could-help-the-fledgling-l3c/>.

concept, which is currently ongoing, is to “productize” the multi-stakeholder and multi-return framework.⁵⁶ The Social Yield Option Note (SYON, or shortened to SYN) combines the contingent return model of a SIB with the legal flexibility of L3C in an established capital market structure which is known as Liquid Yield Option Notes (Wood 2011). This product is a standardized capital market security that can be applied to any issue, from agriculture to energy to education and even to sanitation. It is easily understood by bank salespersons that allows for distribution and creation of standardized portfolios. Critically it should be feasible to ring-fence the risk in the capital market structure, hence providing the peace of mind that would normally require Congress to pass the L3C framework Figure 14 shows the SYON structure.

Figure 14. Social Yield Option Note (SYON) structure.



SYON is based on a security structure designed in the 1980s. It is a convertible structure (bond) in which the social investors, the government, can convert their share of the Limited Liability Partnership into a grant. This changes the marginal cost of capital of the entity. This would happen where there is marginal economic return with social impact and where social investors can change the marginal cost of their entity. Within SYON, the application risk is fenced from a complex legal framework to a much simpler financing product through the creation of a replicable capital market structure. It can be managed on existing compliance and risk platforms with social mission built-in into it, thus covering reputational risk. This strategy structurally and legally reinforces the position of the social investor.

SYON as a financial instrument, allows participants with different financial return expectations, one that ultimately can be tradable. If the entity makes a loss or is only marginally economically successful, social investors (government or foundations) may change the marginal cost of

⁵⁶ “Productize” means that the investment would be offered as a financial product.

capital of the whole entity by essentially making their investment a grant allocation. If the entity makes a profit, the social investors may alternatively benefit from the economic returns associated with the achievement of the social metric. Hence, core foundation funds can be aligned with social mission.

The SYON structure has a call option into a Social Impact “Bond” or contingent payment model. This would mean that the capital market security would be traded as a function of the achievement of the social metric. This would give a liquid secondary market, which means that it could be applicable as an investment of the core (MRI) funds of a foundation; thus opening up those funds for social mission (see earlier notes on MRI and PRI).

A SYON can also potentially be structured as a zero coupon bond, wherein there is no cash flow payout in interest, with the bond accruing to par value on maturity. In this format of a zero coupon bond, it therefore benefits the cash flow of the social entity. The bond progresses to maturity when it is paid at 100 per cent on the original investment. If interest rates come down, the bond’s price will rise, and vice versa. This structure would also provide a common security structure with a CUSIP⁵⁷ number that allows banks to create common portfolio structures and manage on standardized risk and sales platforms. Ultimately, the creation of cash flow associated with the delivery of a social metric means a wide range of capital market solutions can be applied.

4.2.5 Entrepreneurs

The last decade has seen a wave of growth in global social entrepreneurship. There are many definitions of social entrepreneurship. To quote Ashoka, the world’s first and largest global social entrepreneurial organization, “social entrepreneurs act as the change agents for society, seizing opportunities others miss and improving systems, inventing new approaches, and creating solutions to change society for the better. While a business entrepreneur might create entirely new industries, a social entrepreneur comes up with new solutions to social problems and then implements them on a large scale.”

Ashoka’s definition of a social entrepreneur is someone who is creative, ethical, and entrepreneurial and has definable social impact. Fifty percent of Ashoka Fellows change national policy in ten years. A social entrepreneur has systems-changing idea and definable social impact. At present, Ashoka has over 3000 fellows in more than 70 countries,⁵⁸ and its model has been replicated by other organizations, most notably the Schwab Foundation, Skoll Foundation, WEF, UnLtd (UK) and Echoing Green.

⁵⁷ Cusip: Committee on Uniform Security Identification Procedures. A CUSIP is a nine-character alphanumeric code that identifies a North American financial security for the purposes of facilitating clearing and settlement of trades.

⁵⁸ For more information on the fellowship, visit <http://www.ashoka.org/fellows>.

In the early stage of development, organizations may claim a much higher impact than in traditional top-down models. Based on a study conducted by Ashoka and the Corporate Executive Board, findings showed that “over 80% of Ashoka fellows have changed the rules that govern our societies and market systems.” Further, “72% of Ashoka fellows are using a market-based approach (earned revenue, for profit components or collaborating with businesses), blurring the line between sectors and creating congruence between business and social interests. Ashoka fellows are leading social entrepreneurs who are recognized for the potential to change patterns across society. A total of 172 fellows from 32 countries participated in the study, which measured 5 types of systemic change ranging from market dynamics, to public policy.”

At its simplest level, social entrepreneurship can be seen as the research and development of society that critically brings with it the ownership of the community in the delivery of tangible social outcomes. The growth in identifying social entrepreneurial innovation (E of the COILED framework) and systemic innovation that can be scaled is critical to addressing systems failure. Social entrepreneurship injects something we take for granted in the for-profit world – new innovation.

4.2.6 Distribution

Development finance institutions and governments are considering changes in delivery mechanisms because it has been increasingly apparent that the delivery of aid through governmental organizations is not always effective and efficient. The last 15 years has witnessed substantial growth and increasing sophistication in civil society organizations that are involved in delivering programs. The Aga Khan Development Network with USD 2.3 billion revenues in 2010, the Bangladesh Rural Advancement Committee (BRAC) which employs 120,000 staff and reaches 110 million customers, and Grameen Bank with USD 11 billion disbursed are all prime examples of these civil society organizations. The growth of the “citizens” sector now provides new ways to deliver capital for social purpose.

Western NGOs, faith-based organizations and multilaterals, that have traditionally been involved single issues, are beginning to grasp the blended commercial/social opportunities of collaboration. For instance, UNICEF is working with the CSR initiative of Unilever in hand washing. WaterAid is collaborating with HSBC Bank on the water initiative and the Anglican Church is working with mobile phone operators for other development issues. This change in practice increases the opportunity to standardize and implement best practice more widely. These collaborations pave the way for hybrid structures between civil society and the corporate sector, which lie at the heart of the COILED approach.

Figure 15 illustrates what an institutional set-up might look like for an impact investing initiative with reward payments contingent on social impacts. Various financing agents make funds

available, both upfront and after delivery of outcomes, each with its own specific conditions (see sections 4.2.1, 4.2.2 and 4.2.4). The social intermediaries (see section 4.2.3) are together responsible for aggregating the market and ensuring an appropriate balance between financial returns and social impacts.

Figure 15. Institutional set-up for impact investing.

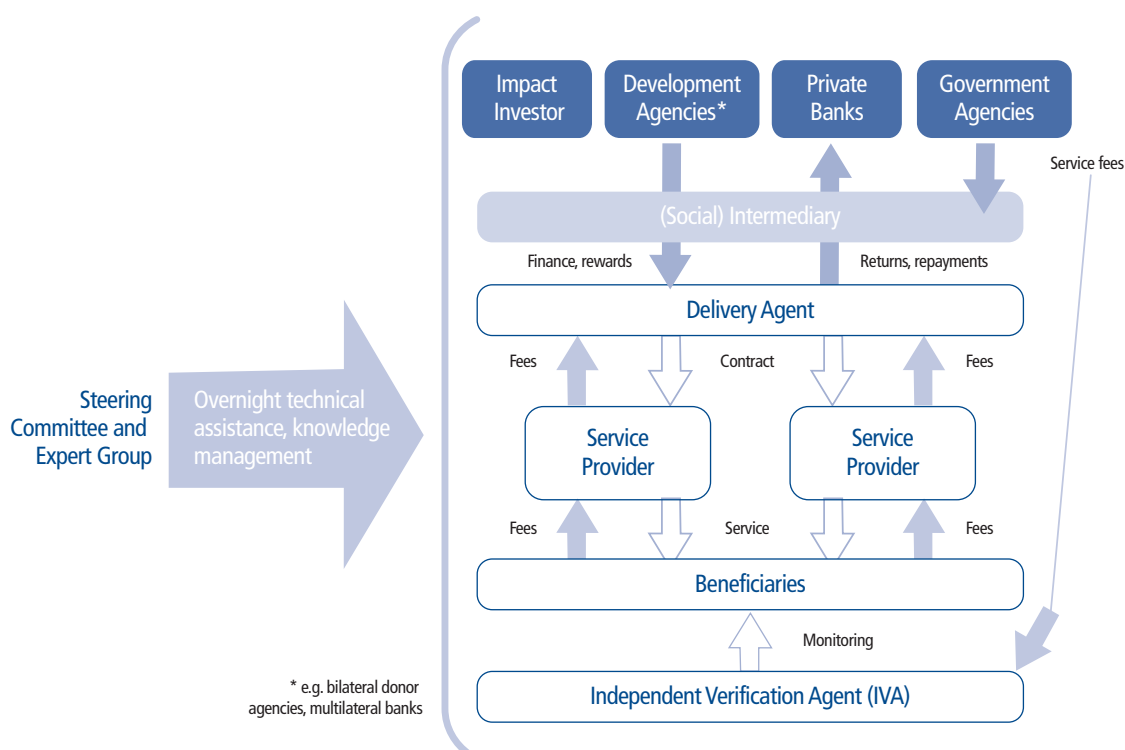


Figure 16 also shows that there may be a single delivery agent, who manages the service providers to deliver services (see section 4.2.5 and 4.2.6). Further, steering committee and expert groups collectively provide oversight and technical assistance and manage knowledge to ensure that the lessons are learned so that the scheme can be adjusted and replicated elsewhere. An independent verification agent reports back to the steering committee on the impacts of the services (see section 4.2.2) and, on this basis, the contingent payments are made to the delivery agent or service providers. The availability of social intermediaries and delivery agents and the capacity of the local service providers depend on the types of financiers and their requirements.

4.3 Value proposition – the cost curves

4.3.1 Value proposition overview

Sanitation is a service with a range of private, social and environmental benefits. With everyone in society benefiting from improved sanitation, a range of agents such as governments, private individuals and private enterprises are willing to pay for these services. For this service to be provided, an assortment of inputs is required: hardware, materials, labor and software (e.g. management, marketing and communications expertise). As in most markets, the unit cost of services depends critically on the volume of demand and the availability of service providers that is largely influenced by market prices.

For policy and investment decisions on sanitation, key players – covering governments, investors, private sector providers and the social sector – will need to understand the following:

- **They must know the size of the potential market to understand the size of the challenge and the opportunity.**
- **They must understand the value at stake in closing the sanitation gap and fulfilling the present or latent market need.**
- **They must recognize the importance of cross-sectoral collaboration of all stakeholders to make it work.**

At a very practical level, as one moves from traditional bilateral funding mechanisms of grant and aid to impact investing models in which you have for-profit financial return delivering social impact to outcome models of multi-stakeholder partnerships that provide different stakeholders with differing returns over the product life cycle, one needs to consider the crucial interrelationship of different partners such as government, for-profit players, not-for-profit stakeholders and civil society.

With the injection of for-profit capital and corporate expertise into the provision of social goods, it is vital that the skills, expertise and position of the traditional players are reinforced vis-à-vis the commercial partners. The failure to inject capital leads to the domination of a better-resourced for-profit sector. This has been observed in many markets such as commodity producers and farmers, who usually receive 1-2 per cent of the total value chain, with the bulk of the cash flow going to the for-profit distribution chain such as the wholesalers, middlemen and retailers.

From a social sector perspective, if one wishes to construct a more equitable framework that benefits all stakeholders over a product life cycle, it is important to be clear what cash flows are generated over that product life cycle and to ensure that suitable safeguards are in place, as proposed under the COILED framework. From a commercial perspective, it is about opening up new market opportunities in goods and services that would benefit the society as a whole and

lead to positive redistribution of economic gains. Commercial players bring innovation, modern capital tools, economies of scale and distribution networks. Doing this requires examination of the sanitation issue through the perspective of business lines (section 4.3.2), their current application in the first cost curve and the consideration of social externalities in the second cost curve (section 4.3.3) as well as the financing of these solutions at scale (section 4.3.5). McKinsey & Co. previously applied the cost curve approach for the International Finance Corporation for investing in water resources (Addams et al 2009).

4.3.2 Business lines

The cost curve⁵⁹ process allows the identification of the C, O and E in the COILED paradigm, namely, the entrepreneurial innovation, linked to the capital market tools and the outcomes it creates on a standardized modular framework. McKinsey & Co., in collaboration with WSFF partners, has identified these business drivers or business lines, in sanitation (McKinsey and Co. 2010). These business drivers are described below.

- 1 Municipal financing.** Municipal financing for urban infrastructure is a major business line in Asia and is associated with a number of financing tools. Municipal financing for subsidized investment community sanitation services usually includes the public part of the system – sewerage pipes and treatment plants. The provision of financing from local (e.g. municipal) or national government is an important source because it is based on regulations and with these funds come guarantee.
- 2 Housing/mortgage financing.** The provision of sanitation is seen as an intrinsic part of new housing development. Services include toilets, pipes, septic tanks and connection to sewers.
- 3 Entrepreneurs/private sector.** These include small-scale providers of sanitation hardware, installation and emptying services. It also includes large-scale providers and mass markets of sanitation hardware and installation services. The latter include export industries of equipment and spare parts and companies providing treatment plant services or public works.
- 4 Consumables.** There is a range of by-products and markets that the provision of more widespread sanitation will open up. Some of these products include sanitation towels, soaps and disinfectant products.
- 5 Public toilets.** The private sector/social entrepreneur may provide toilets to the community or schools, either directly or linked to services they offer to the community through waste management.

⁵⁹ The cost curves presented in this report are known as the “McKinsey” cost curves, which shows the financial or economic price of achieving a social outcome (y-axis) against the range of different technologies and contexts for achieving the social outcome (x-axis). These cost curves have been applied to assess the costs of reducing greenhouse gases and the costs of increasing water availability.

- 6 Energy.** The methane and energy produced are key by-products that can be used and monetized directly through more efficient technologies in heating or energy.
- 7 Fertilizer.** Systems in which the range of waste products can be used as fertilizer in an agricultural context can be developed commercially through the sale or own use of compost and possibly sludge from treatment plants. With chemical fertilizer prices on the rise in the face of rising demand outstripping supply, this could become a critical market.
- 8 Carbon market.** When in regulation, reductions in release of greenhouse gases (GHGs) can have a monetary and tradable value (e.g. clean development mechanism).

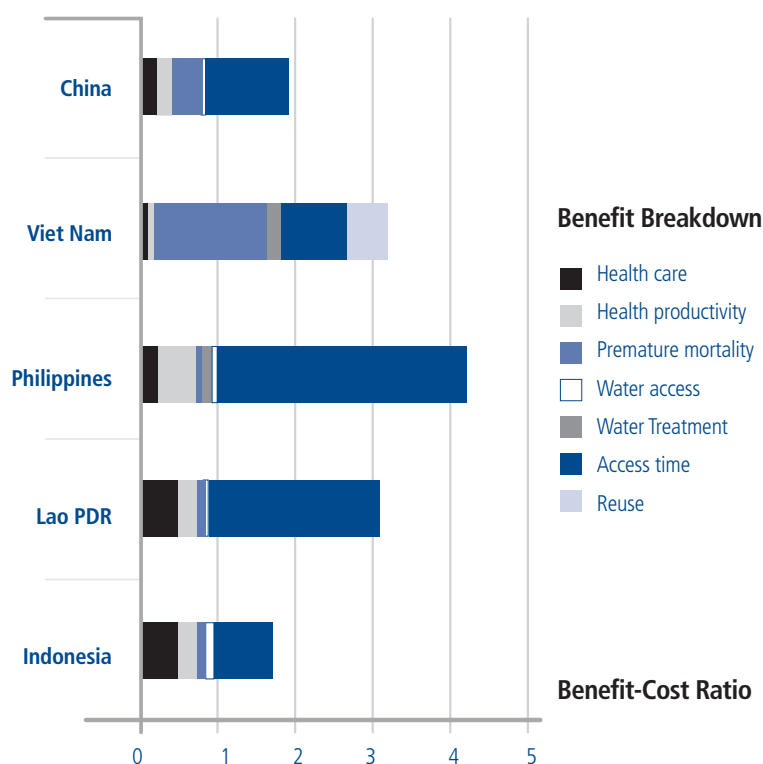
Cutting across these business lines are the cost savings and wider economic benefits associated with improved sanitation facilities. There will be improved community health and reduced water pollution, leading to cost savings for households, health systems and water providers. Furthermore, an improved environment makes it more attractive for businesses and tourists, leading to increased land prices, property development and service chains (including local employment). Households with improved sanitation will enjoy higher property prices. The World Bank has evaluated selected impacts in several country and local field settings in Asia (Hutton et al 2012).⁶⁰

Figure 16 shows significant economic returns on investment in sewerage systems in five Asian countries.

The collaboration potential is significant around these eight business lines and the cross-cutting economic benefits. Despite this analysis being presented in modular fashion, it is worth noting that this model is not unitary. The engagements of each of the stakeholders – for profit, not for profit and government – will differ according to the business line.

⁶⁰ Publications on the economic impacts of sanitation are available for download from the Economics of Sanitation Initiative webpage: <http://www.wsp.org/wsp/content/economic-impacts-sanitation>.

Figure 16. Economic returns to sewerage per US dollar invested in five Asian countries.

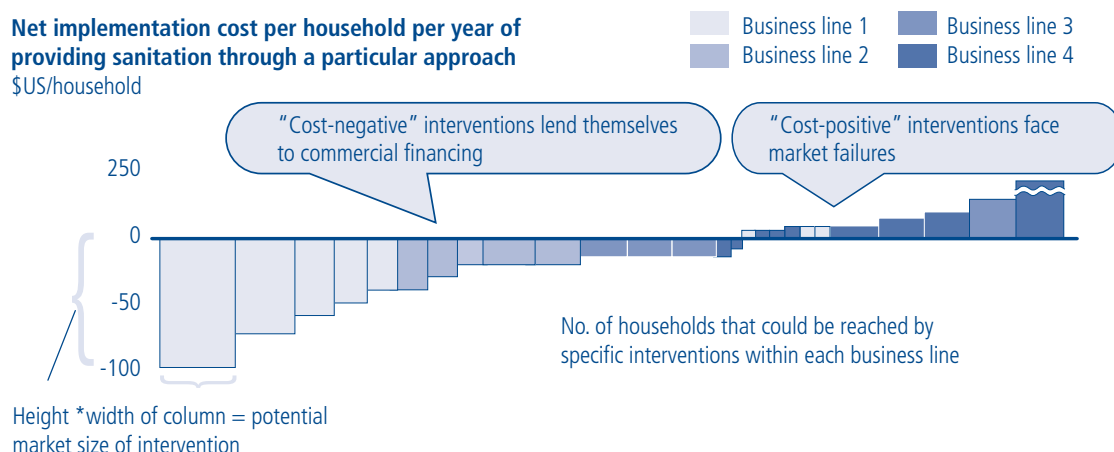


Note: Copied from Hutton et al (2012).

4.3.3 Cost curve 1: the current marketplace

The cost curve essentially describes the return on investment. In previous examples of its application in water resources and GHG abatement, the net cost per unit of water saved or GHG emissions reduced is plotted on the y-axis against the range of policy-technology combinations on the x-axis. In the case of sanitation, the y-axis is the net implementation cost per household of sanitation provision. "Net" means the cost of production minus the selling price or benefit obtained.

Before social externalities and the outcome model can be considered, it is necessary to plot the status quo with regard to existing markets and innovations offered in the marketplace. This reflects cost curve 1. In this case, the benefit is the revenue for providing the service. A negative value reflects a profitable service, whereas a positive value reflects the subsidy needed for the service to be provided under the simplifying assumption that production cost is equal to the costs recovered from the beneficiary plus the subsidy. Figure 17 provides an illustration of what the cost curve might look like for sanitation across four business lines. Note that a cost curve can be built for any level, such as for a community, a city, a province or an entire country.

Figure 17. Illustrative cost curve for the existing marketplace and potential innovations.

Note: Copied from McKinsey and Co. (2010).

One can run the first cost curve under different scenarios. Initially, the existing market needs to be quantified by what technologies and services are being paid for, by whom and what are their net costs? At the core of impact investing approaches is the promotion of innovation, which allows for the exploration of different potentials as to how cost curves are impacted. For example, at the local level, there are entrepreneurs operating who are exploring ways of breaking into the sanitation market and these may have replication potential in different contexts. An example of programs actively encouraging entrepreneurship in sanitation is the Ashoka Changemakers program,⁶¹ which has assessment criteria covering innovation, social impact and sustainability.

Global financing innovations need to be identified and assessed as well for their potential impact on the cost curve. The guarantee structures provided by the financing vehicle AMF⁶² allows the leveraging of local pension funds in their own currency for financing sustainable development projects, such as sanitation⁶³ (see section 4.2.1). The USD 1 trillion core funds held by foundations could be used for MRI and PRI and directed toward sanitation programs.

61 For more information on the Ashoka Changemakers competition, one may visit the following web link: <http://www.changemakers.com/waterandsanitation>.

62 For more information about AMF, one can visit: <http://www.amfguarantee.com/>.

63 The Hashimoto Action Plan II refers to this as having significant potential for utility financing.

4.3.4 Cost curve 2: capturing externalities

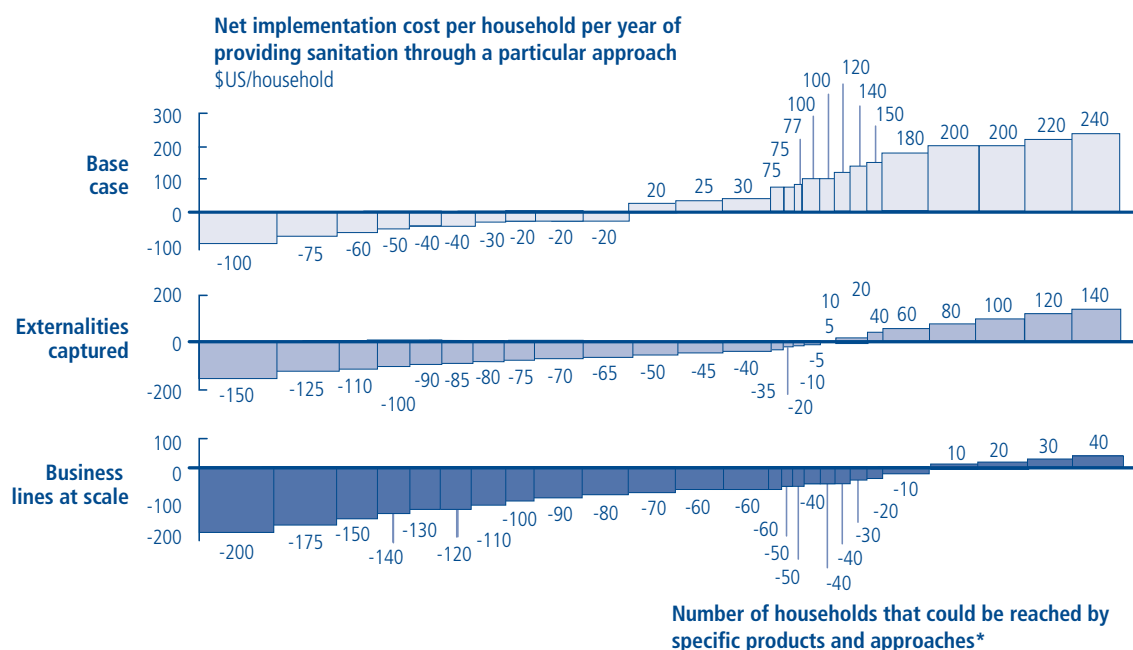
The fact that large externalities exist with sanitation provision calls for a second cost curve to be identified. The identification of the second cost curve allows for the creation of the value of the outcomes (the O in the COILED paradigm) when the services in cost curve 1 are delivered. Under the traditional paradigm, financiers look only at one side of the balance sheet – the amount of money to be raised. Social impact is then claimed, but for the most part, the cash flow value of that intervention to the government or commercial sector is ignored.

International research studies show that the cost curve value is potentially substantial and, in many cases, will be many times the size of the current funding framework. WHO has estimated the required capital expenditure to meet the MDG sanitation target at around USD 115 billion globally over five years with USD 60 billion of which is in Asia (see Annex III) (Hutton 2012). The benefits identified, covering health and productive time gains, are in an annual excess of USD 54 billion. It will take between 2 and 3 years to recuperate these investments (Hutton 2012). When annual equivalent values for both costs and benefits are considered, the social return for sanitation is calculated at over five times the investment costs. These figures do not include all the benefits, due to difficulties in monetizing some of these benefits.

In essence, cost curve 2 shifts the profitability of the sanitation market (see middle graphic in Figure 18). As the COILED analysis shows, this will create financial equity whose value is based on the social equity it delivers. The quicker and more effective the collaboration between the stakeholders is, the higher the rate of return. In section 4.2.1, SIB is presented as a tool that enables monetization of that value.

Another successful model is that of the Global Alliance on Vaccines and Immunizations (GAVI),⁶⁴ which utilized the anticipated future cash flow of government aid programs in vaccinations and realigned them to drive economies of scale, which dropped the unit cost of vaccinations significantly. The multi-stakeholder structure is the key to GAVI's success.

64 The International Finance Facility for Immunisation (IFFIm) uses long-term pledges from donor governments to sell "vaccine bonds" in the capital markets, making large volumes of funds immediately available for GAVI programs. Launched in 2006, IFFIm was the first aid-financing entity in history to attract legally binding commitments of up to 20 years from donors and offers the "predictability" that developing countries need to make long-term budget and planning decisions about immunization programs. IFFIm has transformed GAVI's financial landscape by nearly doubling GAVI's funding for immunization programs. IFFIm benefits from US\$ 6.3 billion in donor contributions over 23 years from the governments of UK, France, Italy, Norway, Australia, Spain, the Netherlands, Sweden and South Africa. These long-term pledges support the issuance of vaccine bonds, which have been issued in various markets – from London in 2006 to Tokyo in 2010 – and proved remarkably popular with institutional and individual investors who want a market-based return and an ethical investment opportunity. With the World Bank as its treasury manager, IFFIm has raised more than US\$ 3.6 billion to date demonstrating the power of frontloading the availability of the committed funds. For more information on IFFIm, please visit: <http://www.iffim.org/about/overview/>.

Figure 18. Illustrative cost curves including externalities and business lines at different scales.

Note: McKinsey and Co. (2010) proposed these cost curves for sanitation to the World Sanitation Financing Facility.

In the successful application of the outcomes model, the market segments in cost curve 2 might be different from those in cost curve 1. This is mainly due to sanitation interventions reaching a broader audience and to variation in externalities. The business line segment will shift around at this stage resulting to cost curves 1 and 2 that are different in reality.

While valuing some externalities⁶⁵ is challenging, it is important to focus efforts on the most important ones. Using conventional economic valuation techniques, the World Bank WSP measured the externalities related to health gains, water resource impacts and tourism gains from improved sanitation in five SE Asian countries (Hutton et al 2008). With more research in the area of externalities, it is anticipated that large-scale financing in impact investing will result in a set of innovations in measuring and valuing externalities associated with sanitation interventions. In particular, it is expected that externalities will be easier to identify and measure when it comes to assessing smaller geographical areas such as districts or cities, as opposed to the World Bank studies that were national in scale.

⁶⁵ In economics, an externality is a cost or a benefit, which results from an activity or transaction that can affect an otherwise uninvolved party who did not choose to incur that cost or benefit.

4.3.5 Cost curve 3: going to scale and exit strategy

Cost curve 3 identifies the level of innovation that has commercial potential. At cost curve 3, subsidy financing is targeted to be reduced to sustainable levels or withdrawn altogether. Figure 19 illustrates what this might look like.

One recognizes that the values under cost curve 3 are somewhat arbitrary estimates. However, it is something that should be considered strategically from the start since cost curve 3, primarily, identifies a potential exit strategy for governmental and philanthropic capital. This is a logical step given the transition of many models over time to full cash flow sustainability. For example, sanitation in OECD countries is largely a for-profit business, or in the case that the service is provided by the government, it usually generates full cost recovery.

The development of a third cost curve is necessary since its construction helps identify the cost structure that eventually needs to be dismantled, or re-utilized, as successful innovation is moved to scale. By generating the third cost curve, one can fully capture the benefits. For example, with health benefits comes the reduced need of the population to use health services. The full health and economic benefits of a sanitation intervention is usually realized when health infrastructure capacity that is no longer used for illnesses or diseases due to poor sanitation is dismantled or, more likely, re-utilized for other health objectives.

The mapping of business lines to financing options is another key element linked to the three cost curves. On the basis of the potentials in the three cost curves, one must assess which providers and financing mechanisms would best suit the delivery of these sanitation services. Table 6 presents an illustrative analysis of how business lines are linked to financing options.

Table 6. Illustrative mapping exercise of business lines to financing options and the consequent costs and populations served.

Financing vehicle	Municipal financing	Housing/ mortgages	Private providers	Consumables	Public toilets	Resource reuse
Guarantees	USD x billion y million served	USD x billion y million served				
Equity investments	USD x billion y million served					USD x billion y million served
Mezzanine	USD x billion y million served	USD x billion y million served				USD x billion y million served
Public debt	USD x billion y million served	USD x billion y million served			USD x billion y million served	
Corporate debt	USD x billion y million served	USD x billion y million served				USD x billion y million served
Micro-credit			USD x billion y million served	USD x billion y million served	USD x billion y million served	
Foundations			USD x billion y million served		USD x billion y million served	
Venture philanthropy			USD x billion y million served		USD x billion y million served	
Overseas Development Assistance	USD x billion y million served	USD x billion y million served	USD x billion y million served			USD x billion y million served
Corporate Social Responsibility			USD x billion y million served	USD x billion y million served	USD x billion y million served	USD x billion y million served

Notes: (i) The authors generated the information included in Table 6 from McKinsey and Co. (2010).

(ii) The monetary value of the market (USD x billion) and how many people are served (y million served) should be entered in the shaded cells when data become available.

5

Conclusions and recommendations

This paper describes both a financing mechanism for basic services and an aid delivery approach that are innovative. Compared with the business-as usual model, in which there is limited private sector participation in sanitation services and donor funds are delivered as grant or loans to governments, the outcome-based financing model offers the following advantages:

- It injects discipline and opportunities to the marketplace. Innovation, scale and efficiency are brought into sanitation service delivery through a combination of entrepreneurs and large-scale companies and distributors.
- Public and philanthropic funds significantly leverage private sector and foundation funds for investment and provision of scaled-up sanitation services. Some of these funds are raised at below market rates.
- Social impacts are built-in into the mechanism. The different market segments are assessed among the different stakeholders, and providers are paid based on the delivery of social outcomes (e.g. poverty reduction). These metrics are based on independent verification using the best available and commonly agreed measurement approaches.
- Positive externalities from improved sanitation are internalized into the system of incentives and contractual arrangements.

Given that the outcome-based financing model has had few applications to date, its implementation in the field of sanitation needs to be prudently examined. The mechanism that should be promoted crucially will depend on the initial findings at the earlier stage of implementing the model. It will also depend on the interaction of the main stakeholders. At present, there is no single mechanism that is being promoted.

In most contexts, it is important that a major public player such as a multilateral development bank or an influential bilateral donor agency with international reputation is involved. The involvement of social intermediaries in the implementation of the outcome-based mechanism is fundamental to the success of such a scheme. Initial pilot testing of the approach is important before a widespread application of outcome-based financing becomes possible.

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Annexes

Annex I: MDG regions for Asia

Eastern Asia	China, Mongolia, Republic of Korea
Southern Asia	Afghanistan, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Maldives, Nepal, Pakistan, Sri Lanka
South-Eastern Asia	Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam
Western Asia	Iraq, Jordan, Kuwait, Lebanon, Occupied Palestinian Territory, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Turkey, United Arab Emirates, Yemen
Oceania	Fiji, French Polynesia, Guam, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu

Note: Regional groupings are generated from: <http://mdgs.un.org/unsd/mdg/host.aspx?content=data/regionalgroupings>.

Annex II: Sanitation coverage for Asian countries

Country	MDG region	GDP per capita (2009)	Population in 2015 (millions)		
			Rural	Urban	Total
China	5	3,744	709	687	1 396
Mongolia	5	1,573	1	2	3
Republic of Korea	5	17,078	8	41	49
Afghanistan	6	486	25	9	34
Bangladesh	6	551	121	54	175
Bhutan	6	1,831	0	0	1
India	6	1,192	881	413	1,294
Iran	6	4,540	22	57	79
Maldives	6	4,760	0	0	0
Nepal	6	427	26	7	33
Pakistan	6	955	124	81	206
Sri Lanka	6	2,068	18	3	21
Cambodia	7	706	12	4	16
Indonesia	7	2,349	101	143	244
Lao PDR	7	940	4	3	7
Malaysia	7	7,030	7	23	30
Myanmar	7	2,000	33	20	53
Philippines	7	1,752	31	71	102
Singapore	7	36,537	0	5	5
Thailand	7	3,893	45	25	70
Timor-Leste	7	492	1	0	1
Viet Nam	7	1,113	64	30	94
Cyprus	8	31,280	0	1	1

Note: Data presented are generated from WHO and UNICEF (2012) and Hutton (2012).

Coverage in 2010 (per cent)			Population (thousand) to cover to reach MDG			Additional population (thousand) to cover to reach universal coverage		
Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
50	75	62	134 689	0	134 689	201 335	230 797	432 132
29	64	51	374	338	712	469	347	816
100	100	100	0	0	0	0	1,089	1,089
30	60	37	8,222	323	8,545	10,197	4,604	14,801
55	57	56	14,550	12,143	26,693	41,648	15,519	57,168
29	73	44	212	67	279	100	69	170
23	58	34	268 779	68,137	336 915	417 118	133 032	550 150
100	100	100	0	0	0	0	4,922	4,922
97	98	97	0	3	3	0	30	30
27	48	31	6,938	1,532	8,470	12,166	2,665	14,831
34	72	48	24,804	11,815	36,619	59,660	20,411	80,071
93	88	92	0	150	150	1,734	456	2,190
20	73	31	3,929	0	3,929	5,836	1,763	7,599
39	73	54	22,288	8,573	30,861	37,025	43,182	80,206
50	89	63	0	0	0	2,145	831	2,977
95	96	96	0	0	0	0	3,415	3,415
73	83	76	0	750	750	8,889	4,874	13,763
69	79	74	1,239	4,246	5,485	8,015	17,425	25,440
0	100	100	0	0	0	0	222	222
96	95	96	0	379	379	1,456	2,921	4,377
37	73	47	231	25	256	361	130	491
68	94	76	0	0	0	20,993	5,441	26,434
100	100	100	0	0	0	2	43	45

Annex II: Sanitation coverage for Asian countries (continued)

Country	MDG region	GDP per capita (2009)	Population in 2015 millions)		
			Rural	Urban	Total
Iraq	8	2,090	12	24	36
Israel	8	26,256	1	7	8
Jordan	8	4,216	1	5	7
Kuwait	8	54,260	0	3	3
Lebanon	8	8,175	1	4	4
Occupied Palestinian Territory	8	1,500	1	4	5
Oman	8	16,207	1	2	3
Qatar	8	69,754	0	2	2
Saudi Arabia	8	14,799	5	24	29
Syria	8	2,474	11	14	24
Turkey	8	8,215	22	57	80
United Arab Emirates	8	50,070	1	4	5
Yemen	8	1,118	18	10	28
Fiji	9	3,326	0	0	1
French Polynesia	9	20,000	0	0	0
Guam	9	15,000	0	0	0
Papua New Guinea	9	1,172	7	1	8
Samoa	9	2,776	0	0	0
Solomon Islands	9	1,256	0	1	1
Tonga	9	2,991	0	0	0
Vanuatu	9	2,702	0	0	0
Total			2,317	1,843	4,160

Note: Data presented are generated from WHO and UNICEF (2012) and Hutton (2012).

Coverage in 2010 (per cent)			Population (thousand) to cover to reach MDG			Additional population (thousand) to cover to reach universal coverage		
Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
67	76	73	271	2,864	3 135	4,660	5,126	9 786
100	100	100	0	0	0	28	510	538
98	98	98	0	55	55	97	462	559
100	100	100	0	0	0	2	325	327
87	100	98	35	0	35	28	179	207
92	92	92	0	130	130	246	657	904
95	100	99	0	0	0	104	230	334
100	100	100	0	0	0	0	122	122
100	100	100	0	0	0	169	2,517	2,687
93	96	95	0	139	139	1,136	1,918	3,055
75	97	90	1,799	575	2,374	3,458	5,755	9,213
95	98	98	28	41	68	91	452	543
34	93	53	3,441	0	3,441	9,047	2,532	11,579
71	94	83	0	10	10	102	51	153
97	99	98	2	1	3	8	11	19
98	99	99	0	1	1	1	11	12
41	71	45	2,004	180	2,183	2,205	206	2,411
98	98	98	1	1	2	0	3	4
18	98	29	195	1	196	202	24	226
96	98	96	2	0	2	0	3	3
54	64	57	15	9	24	85	28	114
			494,046	112,486	606,532	850,822	515,314	1,366 135

Annex III: The costs of achieving the MDG sanitation target and universal sanitation access in Asia

Country	MDG region	Capital cost to reach MDG (USD)			Additional capital cost to reach universal coverage (USD)		
		Rural	Urban	Total	Rural	Urban	Total
China	5	5,756	15,105	20,861	10,819	35,467	46,286
Mongolia	5	13	35	48	19	34	53
Republic of Korea	5	0	0	0	0	171	171
Afghanistan	6	748	0	748	927	571	1,498
Bangladesh	6	740	1,204	1 944	1,812	1,466	3,279
Bhutan	6	5	3	8	4	11	16
India	6	12, 481	12,232	24,713	18,740	19,989	38,729
Iran	6	230	713	943	190	1,468	1,658
Maldives	6	0	0	0	0	6	6
Nepal	6	509	158	667	966	363	1 329
Pakistan	6	288	2,007	4,595	5,391	3,468	8,859
Sri Lanka	6	0	19	19	130	57	187
Cambodia	7	710	4	715	1,023	196	1,218
Indonesia	7	1,372	961	2,333	2,097	2,585	4,682
Lao PDR	7	55	0	55	306	56	362
Malaysia	7	0	0	0	0	694	694
Myanmar	7	0	0	0	453	302	755
Philippines	7	17	239	256	431	1,489	1,919
Singapore	7	0	0	0	0	83	83
Thailand	7	0	85	85	0	655	655
Timor-Leste	7	10	0	10	26	10	35
Viet Nam	7	0	0	0	1,103	890	1,993
Cyprus	8	0	0	0	0	16	16
Iraq	8	2	964	966	314	1,726	2,039

Country	MDG region	Capital cost to reach MDG (USD)			Additional capital cost to reach universal coverage (USD)		
		Rural	Urban	Total	Rural	Urban	Total
Israel	8	0	0	0	4	192	196
Jordan	8	0	18	18	7	148	155
Kuwait	8	0	0	0	0	122	122
Lebanon	8	10	0	10	8	135	143
Occupied Palestinian Territory	8	16	62	78	33	244	277
Oman	8	25	13	37	30	93	124
Qatar	8	0	0	0	0	45	45
Saudi Arabia	8	0	0	0	25	692	717
Syria	8	0	52	52	112	719	831
Turkey	8	735	432	1 167	1 613	4 323	5 936
United Arab Emirates	8	10	34	44	32	377	408
Yemen	8	200	0	200	590	604	1 194
Fiji	9	9	0	9	9	12	22
French Polynesia	9	0	0	0	1	4	5
Guam	9	0	0	0	0	4	4
Papua New Guinea	9	200	65	265	220	75	294
Samoa	9	0	0	0	0	1	1
Solomon Islands	9	15	0	15	16	6	21
Tonga	9	0	0	0	0	2	2
Vanuatu	9	2	2	4	8	10	18
Total		26 456	34 410	60 866	47 458	79 581	127 039

Note: Data presented are generated from WHO and UNICEF (2012) and Hutton (2012).

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