



Making Good Governance Tangible

The cobblestone sector of Ethiopia

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About This Publication

In order to increase the ownership and sustainability of good governance reforms in an urban context, it is crucial to ensure that processes are tangible and desirable to target groups, partners and other stakeholders. Only if politicians, city administrations and citizens believe they can tangibly benefit from such reforms will they embrace changes and appropriate development agendas.

The Ethiopian cobblestone road construction project is an example of how good governance can be introduced at the local level and result in immediate visible impacts. This publication describes how the introduction of this sector has fostered the decentralisation of service provision and the application of good governance within city administration management processes. It also illustrates how this has simultaneously led to job creation and improved urban services.

Through practical learning, Ethiopian cities have institutionalised project planning and implementation

processes. Their effectiveness and efficiency in urban service provision has increased, while enhanced transparency has been observed in citizens' participation in planning, procurement and tendering processes.

The impact on private sector development and poverty reduction has also become very apparent. This includes: employment creation, especially for unskilled and untrained labour as well as traditionally neglected groups such as women and the physically handicapped; and local economy promotion through tendering construction contracts conducive to local micro and small enterprise (MSE) development.

This publication shares lessons learnt by Ethiopian municipalities. It is intended to address decision makers as well as practitioners in development agencies working in the fields of urban development, decentralisation and good governance.

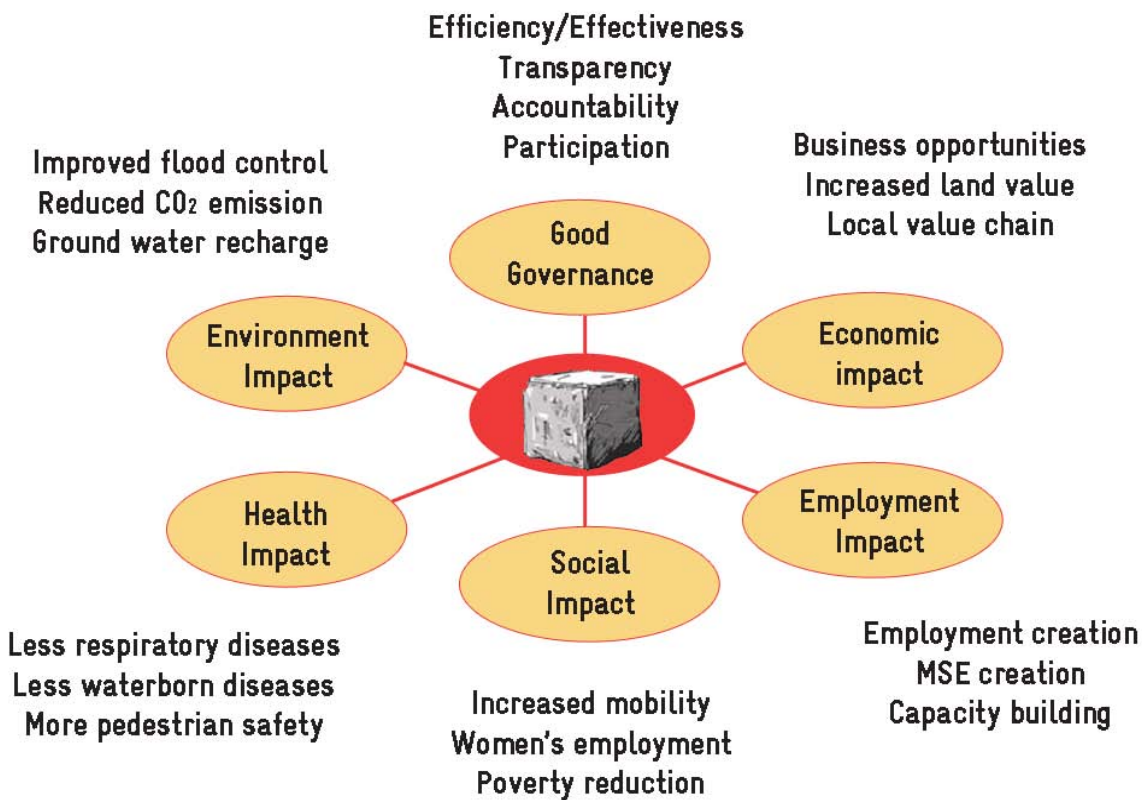


Figure 1: How a simple piece of stone makes a difference

Introduction: Urban Good Governance in Ethiopia

In recent years, Ethiopia has encountered an increased economic growth rate of around eight to ten percent per annum.¹ The government's ambitious industrial policy, including the development of urban areas, is a testament to its commitment to modernising the economy. However, despite consistent economic growth in urban centres, around 40 percent² of the urban population still lives below the poverty line.

While urbanisation in Ethiopia (15.5 percent³) is below the Sub-Saharan average, urban population growth has reached dramatic proportions. Cities in Ethiopia double in size approximately every 18 years. Unlike other African countries, urban population growth is not concentrated in the capital but is also a feature of numerous secondary cities.

A combination of high urbanisation rates, low management capacity and insufficient revenue generation in local administrations is placing Ethiopia's cities under stress. Most city administrations are overwhelmed by

the challenges confronting them. In the secondary cities where formal administrations have recently been established, urban population pressure particularly causes delays in urban service provision, with a significant impact on peoples' living conditions.

Nonetheless, well-governed cities can play a significant role in reducing poverty by offering employment opportunities and improved services. Establishing good governance practices in urban administrations is one of the priorities of the federal government. In its five-year Growth and Transformation Plan, urban areas are frequently cited as "growth poles" that require effective and efficient administrations to accommodate this function. The Ethiopian government's urban development policy therefore calls for a comprehensive reform of the urban sector, particularly in regard to service delivery and urban finance administration. The Ministry of Urban Development and Construction (MUDC) is the responsible organ for implementing these reforms.



¹ CIA World Factbook

² UN HABITAT, 2008: Ethiopia Urban Profile

³ Ibid.

1. Developing the cobblestone sector

While visiting France in 2005, the mayor of Dire Dawa, the second largest city in Ethiopia, was amazed by the numerous cobblestone roads he saw in towns and cities all over the country. Upon his return, he took immediate action to introduce the cobblestone sector in his city. French craftsmen supported his endeavour, but only a few pavers were trained and there was no comprehensive approach to guarantee the sustainability of the new construction sector.

This changed in late 2007, when the Ethiopian Ministry of Education sought an appropriate means to pave the surfaces within their thirteen planned university sites, constructed with support of the Deutsche Gesellschaft für Internationale Zusammenarbeit–International Services (GIZ-IS) University Capacity Building Programme (UCBP; see textbox). Benefiting from the Dire Dawa experience, cobblestone was selected for paving university compounds. Eight craftsmen from Germany were deployed to Adama city in order to develop a training programme on cobblestone paving.

Following initial success, the mayor of Adama extended the programme to include paving the city's central

square. This pilot project soon caught the attention of the media and numerous mayors from other Ethiopian cities visited the site. The training programme was subsequently extended, and by January 2008, the German artisans had trained about 150 pavers and 1150 chisellers (stone producers) and trainers. Later, the newly-trained artisans began implementing training activities in three regional capitals: Awassa, Bahir Dar and Mekele. This self-sustaining, capacity-building process ensured a constant supply of skilled manpower to the young construction sector.

An Ethiopian federal infrastructure fund provided most of the required financial backing for the cobblestone project, whereas the GIZ Urban Governance and Decentralisation Programme (UGDP; see textbox) provided technical assistance to cities in financial and urban planning and project planning and implementation.

UGDP then documented best practices and developed a step-by-step manual for city administrations, thus contributing to the expansion of the cobblestone sector throughout the country.

The GIZ-IS University Capacity Building Programme (UCBP) is supporting the construction of 13 universities in Ethiopia and is responsible for their project management. With the objective of modernising the Ethiopian construction industry, special focus is placed on building the capacities of engineers, contractors and other actors in the construction sector. This is accomplished through training activities and through learning-by-doing.

The GIZ Urban Governance and Decentralisation Programme (UGDP) supports the Ethiopian Ministry of Urban Development and Construction (MUDC), selected regional governments and partner cities in implementing the nation's Urban Good Governance Reform package. This includes public financing system reforms, service delivery improvement, and spatial planning capacity building for urban local governments. These activities are accompanied by participatory decision-making processes. A performance based government fund provides grants for infrastructure improvement to cities.

Supported by the Ethio-German Engineering Capacity Building Programme (ecbp; see textbox) German artisans were contracted as trainers for technical vocational education and training (TVET) colleges, with the task to ensure quality training and programme implementation. Currently, the programme is fully in Ethiopian hands.

Within the past three years, Ethiopian cities have constructed approximately 350 km of roads and pedestrian footpaths in more than 140 cities⁴—an investment worth nearly 58 million Euro (1.3 billion Ethiopian Birr⁵). To date, over 100,000 Ethiopians have found temporary employment in this sector. Formerly unemployed people have managed to start their own

MSEs,⁶ which are growing and sustaining themselves. Almost 2000 MSEs have been created since 2009 in nine assessed cities alone.⁷ Besides creating employment and improving urban infrastructure, introducing small-scale cobblestone road projects has allowed cities to successfully develop their project-planning and management capacities. Due to its positive impact on developing urban spaces, improving urban service delivery, creating employment and fostering good governance reforms, the project is regarded as one of the major success stories of recent Ethio-German cooperation. For GIZ, the project has demonstrated good cooperation and synergies among the three GIZ programmes engaged in diverse development activities in Ethiopia.

The Engineering Capacity Building Programme (ecbp) is an Ethio-German reform programme active in four areas: university reform, technical vocational education and training (TVET) reform, quality infrastructure, and private sector development. ecbp supports the cobblestone project in line with occupational standards and model curricula in TVET. The programme organised the comprehensive roll-out of the industry by supporting tool development in the metal cluster in the city of Mekelle, and through micro and small enterprise development. Moreover, ecbp contributed to success of the programme by providing technical support to UCBP's trainers.

1.1. How it works

Cobblestone road paving comprises three main steps:

1. **quarrying:** extracting raw material from a quarry near the city
2. **chiselling:** transforming the raw material into cobblestones
3. **paving:** laying the cobblestones

The reality is of course much more complex, and cities face individual challenges in implementing their initial cobblestone projects. Some of these may be: identifying suitable quarry sites, including access roads; transporting materials; activating and organising a large number of labourers; workers' safety; planning roads and preparing road beds; organising machinery for compaction and quality control. Ethiopian cities' experiences, best practices and innovations are available for review in the UGDP-documented Cobblestone Guide for Ethiopian Cities and other publications.

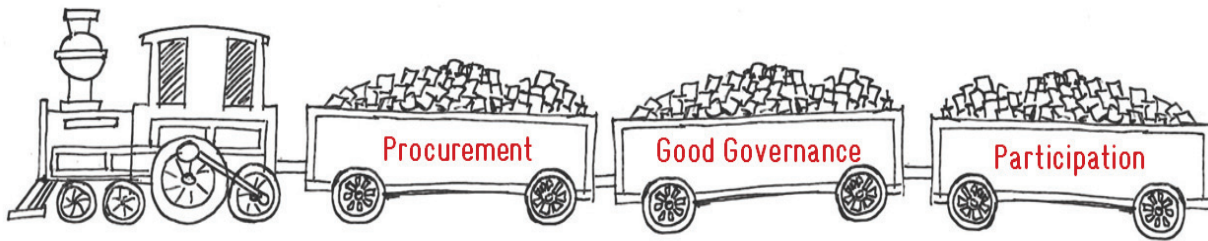
⁴ November 2009 figures.

⁵ November 2011 exchange rate.

⁶ MSEs are mostly organised as cooperatives consisting of a minimum of ten members.

⁷ GIZ (2011): Value for Money study. Internal assessment of the cobblestone sector, Addis Ababa.

2. The cobblestone sector as a vehicle for good governance



The cobblestone sector is a vehicle that possesses all elements essential to introducing good governance mechanisms:

- I. **It enjoys a large degree of support from all urban stakeholders** since it ensures quick and tangible outputs at the local level and significantly enhances the livelihood of citizens. UGDP has used the success of the cobblestone project to make the concept of decentralised decision making and service delivery tangible, not only to local administrations, but also to citizens. The underlying assumption is that stakeholders will take ownership and reach consensus on governance reforms if they see the results of changes producing real benefits for all. In other words, cobblestone road construction has become a vehicle to stimulate societal change and empower local administrations.
- II. **It enables innovation at the local level for country-wide up-scaling.** Learning from the good experiences of a few pioneer cities, cobblestone road projects are today being implemented nation-wide. Most of the Ethiopian municipalities involved in cobblestone activities recognise that cobblestone roads are technically simple and highly appreciated by local communities. Innovative solutions have been discovered while implementing cobblestone projects under different local conditions.

The Ministry, with the support of UGDP, took over the role of researching, documenting and disseminating such best practices to other cities. Some of these innovations have ultimately morphed into country-wide policies and standards.

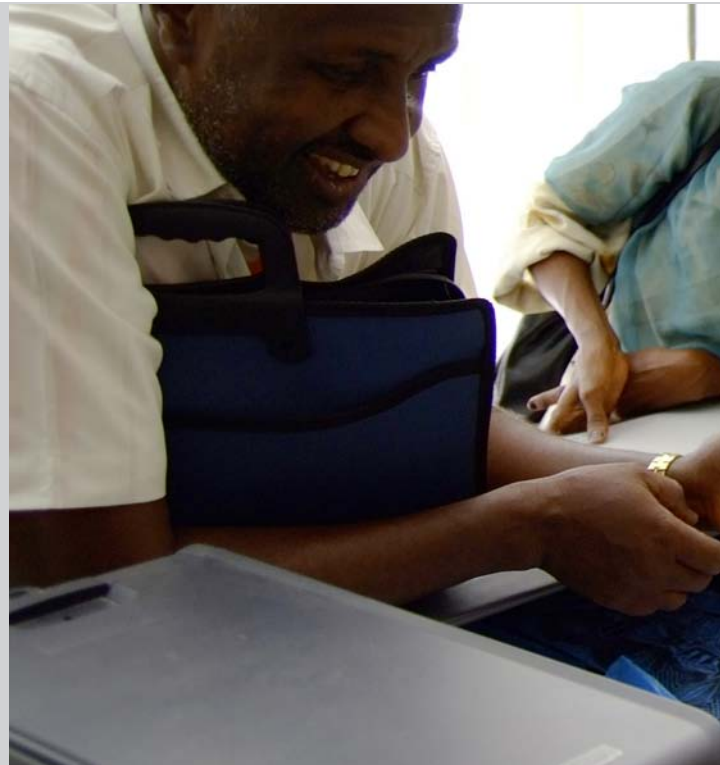
- III. **It fosters reform sustainability through the repetition of learning cycles.** Two other key successful features of the cobblestone sector are the contract size in which cobblestone roads are procured and the revolving nature of the work. On the private sector side, local MSEs are able to access small contracts. On the public sector side, inexperienced city administrations can easily manage small and less-complex contracts without external support.

The sector's revolving nature has introduced learning cycles that have boosted capacity development. Frequently repeating the entire project cycle has led to cities introducing effective and efficient management mechanisms. The revolving learning processes have led to organisational development and service delivery institutionalisation. Interestingly, these project cycles touch virtually all parts of governance including: procurement, quality control and cash-flow transparency.

Furthermore, it has made complex and higher-level planning processes such as participatory capital investment budget development, asset management and urban planning more tangible.

- IV. **It creates windows of opportunity by revealing weaknesses in the system.** The cobblestone sector has revealed weaknesses in Ethiopia's governance system, especially with regard to transparency and accountability. Traditional ways of management have been exposed as inadequate to handle modern city governance. In Ethiopia, governance has a long history of centralism. The size and the success of the cobblestone sector have revealed the necessity for change, thereby creating windows of opportunity for strengthening decentralised decision-making.

Illustrating the above characteristics, the following chapters show examples of how the cobblestone sector introduced new governance processes in Ethiopia, and how these processes have led to sustainable change.



2.1. Competition for good governance

In Ethiopia, both the local construction sector and local administrations have had limited human and financial capacity to procure required construction items or to build local infrastructure. On one hand, only a few big contractors—based mostly in the capital Addis Ababa and equipped with heavy and capital intensive machinery—are capable of building roads on a large scale. For these companies, small-scale infrastructure projects are not profitable due to high mobilisation costs.

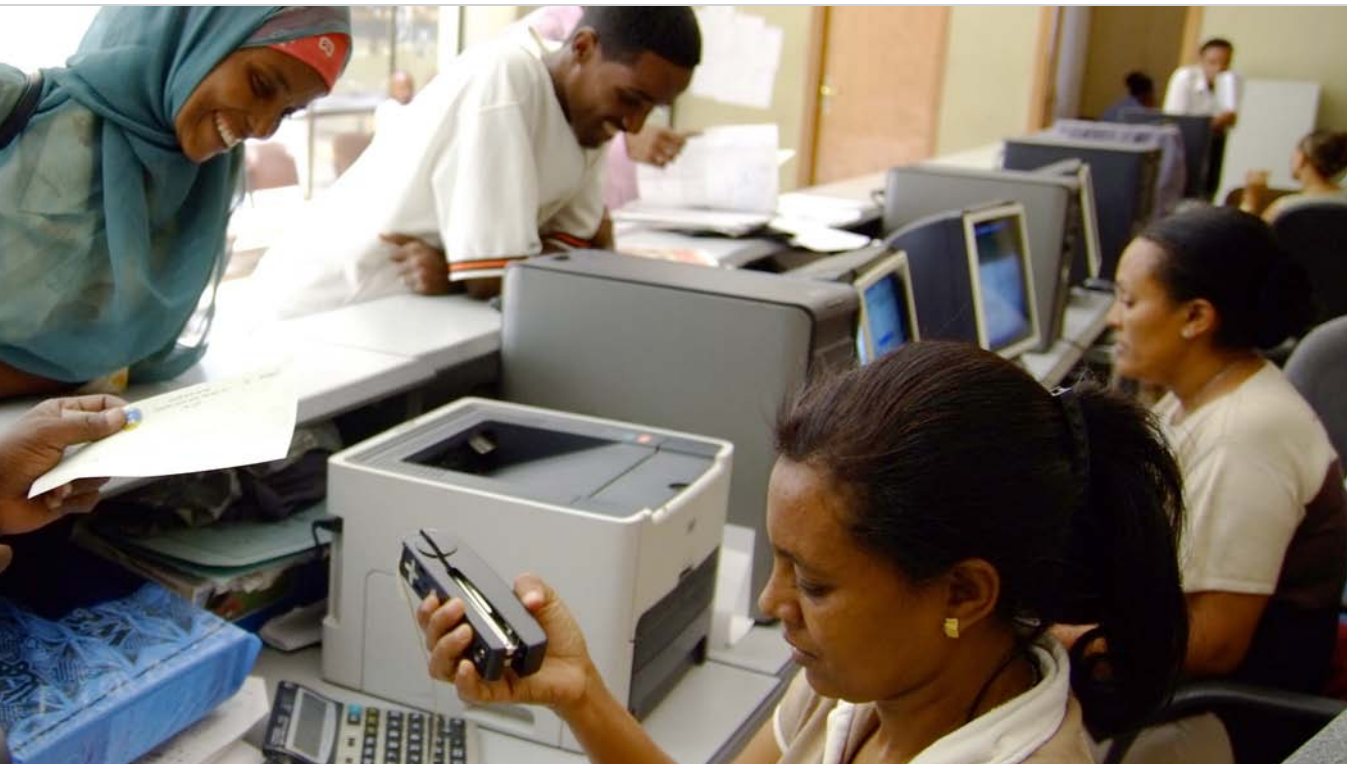
On the other hand, urban local governments neither have the capacity to tender and manage big infrastructure projects properly, nor the ability to finance large-scale construction projects. Subsequently, regional governments have assumed responsibility for managing and financing local infrastructure development.

This has resulted in two key drawbacks. First, the small number of competitors during bidding processes of big-scale projects has led to overpriced offers. Second, the money invested has often flowed out of the local economy and ended up in the pockets of a few individuals.

On the local level, the initial response to this situation was to start managing small-scale construction processes by the city itself. Local administrations organised labour and material procurement, managed constructions, effected payment, and checked the quality of the implementation. By doing so, administrations were rooted in the construction process, acting as both client and contractor. Evidently, this method is susceptible to fraudulent practices.

Another response by cities was to provide direct contracts to often-inexperienced MSEs, since there were no enterprises locally available or competent enough to respond to bidding requests. This was justified on the basis of supporting MSE capacity development. Regarding the cobblestone sector cities began to announce fixed prices for cobblestone chiselling and paving, because initially market prices failed to attract sufficient labour.

Certainly, the above described practices resulted in shortcomings. Irregularities in quality and high prices were at times linked to corrupt practices such as the approval of low-quality works. As cobblestone projects began to gain a great deal of attention by the



public and decision makers, the issue of the ineffective use of public resources became more and more apparent. Local governments had no choice but to come up with systems to address the delicate issue of corruption, the existence of which was repeatedly denied (see case study on page 14).

As mentioned, recognising the resulting market distortion, cities nevertheless used fixed prices and direct contracting. However, as the number of contracts increased, city administrations faced difficulties in organising various tasks.

With the support of UGDP, they gradually accepted that outsourcing work processes to the private sector results in improvements to efficiency and effectiveness in the entire project cycle. Outsourcing also helped to bring added transparency to project management, particularly in regard to quality and corruption control. When the new project cycles were initiated, city administrations acted as managers of optimised planning and contracting processes.

Gradually, the task of implementing contracts shifted out of the hands of cities as more and more of the construction process steps were outsourced (see Figure 3 on page 10).

Another intermediate step in cobblestone sector development was to oblige cities to use local competitive bidding.

This entailed local MSEs to compete for small-scale⁸ contracts, based on standardised tender documents provided by the Ministry. The fixed-price regime was shelved and instead the system of basing market prices on competition was introduced.

Today, most cities deal with full-fledged competitive construction enterprises that are able to manage entire construction processes, and bigger cities have started to implement cobblestone road construction using national competitive bidding. Interestingly, in some regions where a great number of corrupt practices had been reported, prices have declined more notably and the fixed-price regime has eroded much quicker than in other regions.



⁸ Small-scale projects are defined in Ethiopia as smaller than 500,000 Ethiopian Birr, or nearly 21,500 Euro.

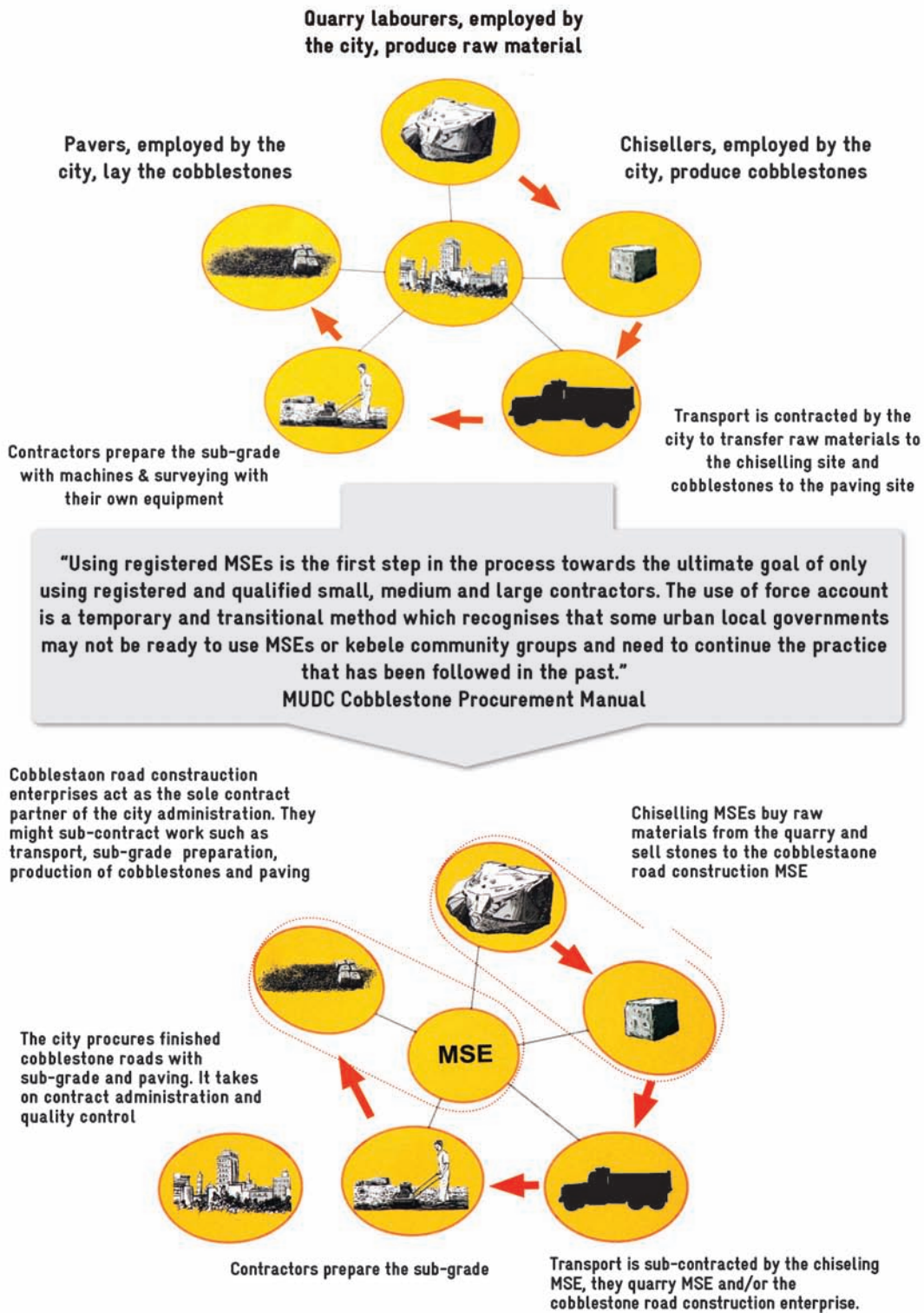
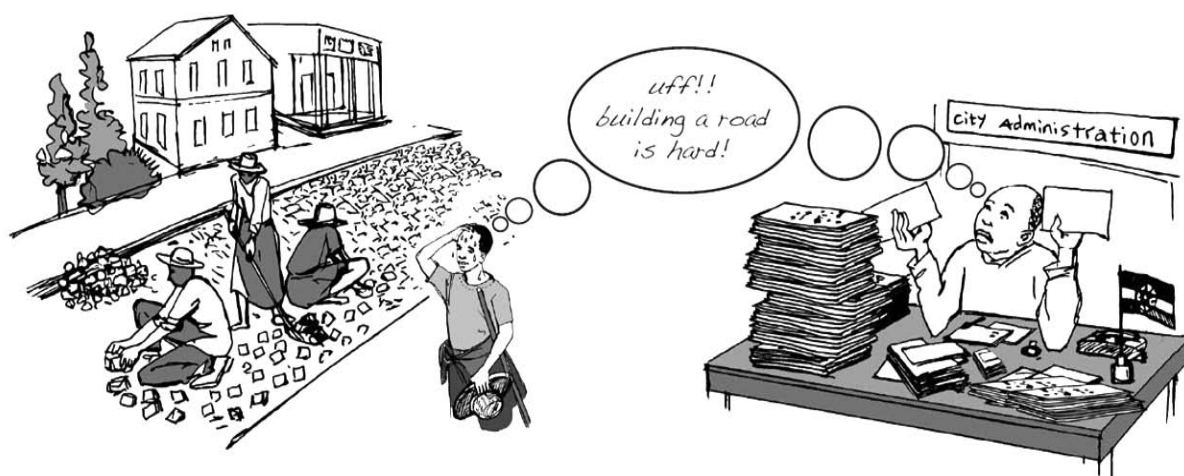


Figure 3: From the inception of a local cobblestone project to efficient contract handling.

2.2. Repeating the project cycle for capacity development



In regard to capacity development, repeating standard tender procedures has significantly increased the capacity of local administrations to handle contracts more effectively and efficiently, and to consequently manage a growing number of projects simultaneously. For local MSEs on the other hand, participating in competitive bidding has increased their efficiency and access to other construction sectors, since they have become familiar with tender procedures and price calculations.

In Ethiopia, introducing competitive bidding has led to a pronounced decrease in prices, as well as to strengthening the local construction industry. Some local MSEs have invested their initial profits in productive goods such as construction machinery, which

again renders them more competitive. With decreased prices, the private sector has increased interest in investing in cobblestone paving. Notably, private sector investments are highest in cities with the most competitive price per square meter. In Adama, the capital city of the Oromia region, more than 50 percent of investments in the cobblestone sector derive from the private sector for a price of 15 Euros per square meter.

Lastly, it is important to note that big-scale, donor-financed infrastructure projects do not have the same effect on capacity building of city administrations, because procurement and supervision processes are too complex for city administrations and therefore often outsourced to external consultants.

2.3. Mutual accountability through citizen participation

Mutual accountability and participatory decision-making have not been adequately developed in Ethiopia. Traditionally, the actions of public authorities are not questioned very much, and people generally avoid involvement in administrative matters. On the other hand, the ruling party derives its power from a grass-roots movement and considers itself as a legitimate representative of the people, thus enabling it to build up strong support among the public for its various development initiatives. In the absence of effective check-and-balance mechanisms however, urban decision-making risks failing to meet the demands of urban residents, especially neglected groups such as the urban poor.

Young city administrations are learning not only how to manage their affairs, but also how to effectively involve citizens in their decision-making processes.

Public participation, however, becomes ineffective if joint decisions are not reflected in cities' planning activities, or if the outputs of participatory processes are not tangible. Such practices result in citizens' discouragement from active participation in future decision-making processes. Accordingly, they may lose interest and display lack of trust in their local authorities.



The cobblestone sector has provided an effective vehicle for stimulating public participation in decision making. In 2008 and 2009, public hearings were conducted in selected cities in order for citizens to come up with investment activity priorities. Real participation was deficient, however.

Neither citizens nor officials were provided with incentives or coached to implement a meaningful participatory process. When the initial projects were implemented and showed immediate and tangible outcomes, however, citizens increasingly demanded to be involved in participatory processes. In many cities, neighbourhoods successfully lobbied for action to improve local infrastructure, something that could no longer be overlooked by city administrations. Meaningful and continuous dialogue thus developed over subsequent projects.

Service cost recovery is vital for building up autonomous local administrations. Until today, the notion that services provided by the public sector require some remuneration from beneficiaries is little understood or seen as irrelevant in Ethiopia. However, best practices emphasise that the trend toward mutual accountability is irreversible. Bishoftu, one of the pioneer cities targeted by the cobblestone sector, requires users (i.e. neighbourhoods) to contribute 50 percent of a project's investment. Furthermore, many cities have revised their land value plans to increase the amount of land revenues collected in areas which are better served. The development of cobblestone roads, more than any other service, provides an appropriate justification for city administrations to increase land-related taxes.

2.4. Better planning and efficient quality control

The Ethiopian Government is committed to developing a more effective and efficient government by initiating comprehensive public sector reforms.

However, effective and efficient local governance is threatened by the high turnover of public employees, particularly engineers whose services are in high demand by both public administrations and the private sector. Cities mostly employ freshly-graduated engineers with little experience, particularly regarding proper plan design and contract management. For complex projects, cities thus tend to out-source project design and construction supervision. This requires a prolonged tender process which in turn incurs high costs. Furthermore, cities lack the capacity to closely supervise consultants since inexperienced municipal engineers are not in a position to question veteran consultants.

Through practical learning and the repetitive nature of cobblestone project activities, city administrations have learned to properly design plans and efficiently control workmanship without resorting to external support.

As cobblestone contracts rarely exceed 21,500 Euros—which translates to approximately 200m of paved roads—their scale is manageable even by inexperienced engineers. Furthermore, city administrations have been provided with standard design documents as well as bill of quantity and tender documents. With these in hand, cities can cyclically design, tender and implement projects.

An October 2011 assessment⁹ of the cobblestone sector revealed that all nine cities studied maintained complete documents for all their self-developed projects. Municipal staff have confirmed that this is entirely new to Ethiopia. Of course, the quality of plans differs from city to city, and particularly the incorporation of different types of infrastructure such as utility lines still requires attention. However, only with such small-scale and repetitive projects can city administrations undertake the entire project cycle without reference to external support. Due to the massive number of contracts, cities have been forced to introduce efficient project cycle management: from design and tender document preparation, standardised tender and bid-evaluation processes, innovative neighbourhood participation for quality control to a new payment approval process.

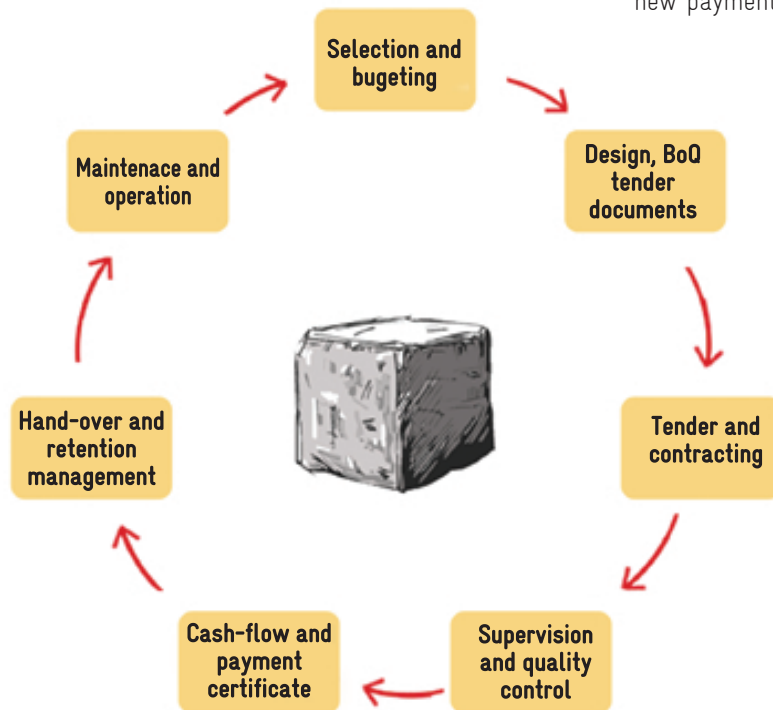


Figure 4: Ideal cobblestone construction project management cycle.

⁹ GIZ (2011): Value for Money. GIZ internal assessment of the Ethiopian cobblestone sector.

2.5. Institutionalisation

Although they all require a home in local administrations, the above-mentioned administrative processes were poorly institutionalised in Ethiopia in the past, if they existed at all. The substantial workload that precedes cobblestone construction implementation revealed the need for change. A new system has since superseded the customary project-based approach to infrastructure development and ad-hoc urban planning. Another window of opportunity has opened.

In 2007, neither urban planning nor infrastructure development offices existed in city administrations. Infrastructure projects were few and far between, were financed by regional governments and often quickly decayed due to lack of maintenance. The Ethiopian government began a major reform process known as Business Process Reengineering (BPR). By applying BPR, city administrations designed work processes and assigned staff to handle the needs of citizens requiring various services. At present, infrastructure and urban planning offices have been set up in more than 23 city administrations.

The establishment of infrastructure offices in particular—equipped with engineers and project managers—can be partially attributed to the success of the cobblestone sector. Today, these offices are designed to serve the needs of local administrations and manage a standardised project cycle. Only because cities have repeatedly conducted the whole construction project cycle has the BPR exercise become meaningful and sustainable.

2.6. Decentralisation

German development cooperation has been supporting Ethiopia's decentralisation process over the last 16 years. Initially, urban issues were not given sufficient attention by the current Ethiopian government, which assumed power in 1992. The urban agenda was finally recognised by the government in 2005. GIZ supported the development of a legal framework for devolving responsibilities to the local level, and the Ethiopian government intensified its decentralisation efforts through various programmes. Today, its focus is on capacity development to ensure effective and efficient local self-administration.

Capacity development under the cobblestone sector has resulted in some meaningful but less visible side effects. At the beginning of the project, both the federal and regional governments had little confidence in cities' capacities to plan their own development activities and manage contracts. Tangible results have since led to regional governments displaying more confidence in their local administrations. Consequently, regional governments have decentralised many tasks following the principle of subsidiarity.¹⁰ Spatial planning has become a local endeavour, for example. Devolution without fiscal decentralisation, also referred to as the principle of connectivity,¹¹ has little meaning, however. As the cobblestone sector has underscored the need for return-of-investment or cost-recovery, some cities now contribute to more than 50 percent of capital investment resources, making them less reliant on federal or donor resources. Cities are ultimately expected to become independent

Innovations by cities: Bishoftu's payment certificate

During the payment-approval process, the client and the contractor assess the quality and the progress of project workmanship on site, and confirm payment if the quality is satisfactory. This process is not standardised in Ethiopia, and is therefore vulnerable to fraudulent practices. The city of Bishoftu has formulated an exemplary checks-and-balances system where the finance department effects the payment only after a four-person project committee—including a representative from the neighbourhood—inspects the completed work and signals its approval. Systems related to redundant supervision (the more eyes, the better) tend to reduce corruption, and other Ethiopian cities are now using this innovative procedure.

¹⁰ Subsidiarity is an organizing principle of federal states. It means that issues are to be handled by the smallest, lowest or least centralised competent authority.

¹¹ Connectivity requests the matching of expenditure with competencies for functions, i.e. if cities are mandated to build infrastructure, they need to be enabled by additional fiscal transfers.

3. Additional impacts

The cobblestone industry has made positive impacts and shown various advantages over other construction methods, especially asphalt paving. Some of these outcomes are visible: the aforementioned 350 km of roads and pedestrian foot paths constructed in over 140 cities, the private sector and public institutions such as health-centres and universities progressively investing in cobblestone road construction. Finally, Addis Ababa has announced an ambitious cobblestone programme worth 43 million Euros, envisioning the construction of 190 km of roads within the next five years. Other, equally-important advantages to Ethiopian cities' engagement in cobblestone sector activities are briefly described below.

3.1. Economic impact

Although the process is not yet complete, more and more MSEs are being upgraded to the status of formal contractors. The growth and capacity-building of such businesses is strengthening the local construction sector, which greatly impacts overall local economic development.

Until recently, urban local governments had been using asphalt as the only paving method, making them dependent on a few big contractors who had the machinery to construct such roads. Consequently, funds tended to be out-flowing, as money left the local and national economy to purchase oil for asphalt and required machinery. The cobblestone industry is local. From the production of tools and stones to the paving of roads, the industry creates local value chains and thus stimulates the local economy.

Paving a cobblestone road significantly impacts the land value of bordering plots and of whole neighbourhoods. Buildings and businesses spring up alongside paving works, which in turn leads to higher revenues for city administrations.





Case study: The road to better business

Mesele Mena runs the Ply Hotel on a formerly-earthen road in Awassa's Bermuda area. The new cobblestone road, which now connects to Awassa's central square, was a pleasant surprise for him and he is glad that the old muddy road is finally gone. The Ply Hotel contributed 1,500 Birr to the cobblestone road project and Mesele is happy about it. "It would be worth contributing even more. It is the first visible project in this area so far." After the cobblestone road was built, he noticed an increase in customers and income. The owner of the Kelay Hotel in Awassa, Mr. Kelay is a friendly old man with a strong handshake. "The main problem during the rainy season was the dirt and the mud in the streets outside the bar," he explains, adding, "During the dry season it was the dust that caused problems and kept customers away." Kelay himself was so pleased with the cobblestone project that he collected the mandatory fees from other shopkeepers and provided drinks for the construction workers. He says that he has 30 percent more guests than before, thanks to the new road.

Another businessman, Afework, converted a residential house into a bar three months ago. His main reason for opening the New Anbesa Hotel in the Bermuda area was the cobblestone road. He convinced the landlord to lease him the house on a three-year contract involving profit sharing. "The business plan has been successful so far," he says.

For most of the business people in the area, the new road means an increase in income and the elimination of poor hygiene caused by garbage in the street.

3.2. Social impact

The primary outcome of road construction is increased citizen mobility. This does not only address private, but more importantly, public and pedestrian transport. With the newly-paved roads, thousands of three-wheel (bajaj) and mini-bus taxis can now access formerly unreachable neighbourhoods. Transport prices have dropped as a result. However, the modal split¹² of Ethiopia indicates that daily movement in cities is mostly done on foot, suggesting that the situation of pedestrians should be a main urban infrastructure focus. The number and quality of sidewalks have increased greatly with the introduction of the cobblestone industry, leading to an improvement in pedestrian mobility and safety, especially during the rainy season.

The cobblestone industry is a local venture that keeps money in the local economy. Moreover, it is labour-intensive while requiring low skills. Through it, especially the urban poor have gained access to employment, creating a major impact on poverty reduction in urban areas.

All GIZ programmes have actively supported the employment of women, and the average share of female workers in the cobblestone sector is 35–45 percent. The handicapped and elderly have also been involved in some innovative cases from different cities in Ethiopia.

Paving roads significantly reduces the amount of dust and flooding. Although not yet fully researched, this in return can reduce the number of respiratory and waterborne diseases such as malaria.

¹² Modal split is a term that describes how many people use certain forms of transportation. It is frequently used to differentiate the percentage of people who use private automobiles, public transportation and non-motorised forms of transport.

Case study: Creating access to neighbourhoods and reducing public transport costs

Prior to the construction of the cobblestone road in 2010, the local residents of the Selle condominium site in Adama usually contracted horse-drawn carts (garis) and three-wheeled taxis (bajajs) to reach their homes. The neighbourhood was only connected to the city centre by one rough earthen road, which caused damage to the bajajs. Minibus drivers declined to operate in the area. Residents thus had to pay two to three Euros per trip, which was a major financial burden for most families.

A minibus line now operates on the new all-season cobblestone road, and 7,200 local residents are currently benefitting from public transport services for only nine Euro cents per trip.

Case study: Prisoners for chiselling

The town of Shire received a performance grant from the World Bank for its innovative approach to cobblestone road construction. Goitom, an enthusiastic young municipal engineer, began his involvement in the sector by locating raw materials nearby, organised transportation and opened a quarry. He then wanted to start chiselling cobblestones. The price was fixed at 16 Euro cents per stone, and after one month of promoting chiselling activities, he was unable to find enough workers for the task. He discussed the problem with the city manager, who raised the price to 24 Euro cents per stone. Still, not enough labourers were applying for the work. Finally, the city manager decided to ask the local prison for help. A month later, over 200 prisoners were chiselling an average of 4,500 stones per day, each earning 16 Euro cents per stone (almost two Euros per day). With their new skills, many of them earned much-needed income after their release from prison by continuing to work in cobblestone-related activities.

Case study: Minimising deforestation

The great majority of chisellers who work in Arba Minch are people who previously earned their living by producing charcoal or selling firewood, activities which have led to deforestation in the area. With the introduction of the cobblestone sector, the rapid deforestation has slowed, resulting in fewer landslides and decreased fertile soil erosion.

Case study: Reducing flooding damage

Located in the old town of Harar, the Jegol area was prone to severe flooding owing to its sloped terrain (which caused surface runoff) and narrow internal streets that impeded surface drainage. Today, the area is paved with cobblestone roads, including sub-surface drainage. Most of the residences are connected to the system. Ms. Rahel lives in the neighbourhood and describes how it used to suffer from frequent flooding, causing considerable damage to her house. "Since the construction of the cobblestone road," she says, "the area floods less often, less intensely, and leaves much less damage."

3.3. Environmental impact

The positive impact of cobblestone paving versus other paving methods on both the local and global environment is profound. Cobblestone is much more durable and entails less rehabilitation and maintenance in the long run than asphalt, for example. Besides saving money, less need for maintenance and renewal activities reduces the amount of environmental stress caused by construction. Moreover, cobblestones are reusable, further diminishing future negative environmental impact. Also, roads constructed with stones are permeable. Water can penetrate the surface and recharge groundwater resources—a crucial benefit for both dry and flood-prone areas.

Finally, in contrast to other alternatives, cobblestone roads are built with local materials and do not depend on oil. Coupled with short transport routes and the abandonment of heavy machines, the projects have had a positive effect on the reduction of carbon dioxide emissions.



4. Lessons learnt

The main lesson learnt is that labour-intensive infrastructure projects serve as vehicles for the institution of good governance principles, and at the same time contribute to sustainable local development. We have identified several factors that have created successful results in the Ethiopian case but could also be applied elsewhere:

I. Combining core-actor competencies creates synergies

The cobblestone project has demonstrated that combining the core competencies of concerned GIZ programmes has produced significant synergies. The good collaboration and active coordination across thematic borders such as governance and economic development has proven effective in producing further sustainable impact.

The combination of technical and financial assistance to Ethiopia has been a cornerstone to the success of the cobblestone sector. Without GIZ's intervention in providing for an enabling environment at the local level, the government's infrastructure fund could not have been efficiently utilised, nor could activities have been smoothly implemented. On the other hand, UGDP's reforms would have been of little tangible use without the incentives provided through financial cooperation.

II. Problem solving promotes good governance

Mayors in Ethiopia are interested in visible results and poverty reduction. Governance is a topic that is abstract to many urban administrations and thus often overlooked. Through the cobblestone sector, thousands of jobs have been created and local economies stimulated. The sector has contributed to increased private and economic mobility while improving accessibility for many neighbourhoods, all of which ultimately contributes to a reduction in urban poverty. These tangible outcomes have created a momentum that has enabled us to address good governance topics without lifting the accusatory finger.

III. Learning cycles sustainably develop capacity

The cyclic application of tender procedures and recurring contract management has significantly increased the capacities of local governments and the local construction industry. To activate these learning cycles, the size and complexity of projects should be adapted to local capabilities and conditions. Cobblestone sector contracts are small in scale, relatively simple to implement, and therefore most advantageous for initiating cyclic learning. With regard to the local construction sector, urban local governments are today autonomously planning, tendering and managing small-scale projects. Such processes have become institutionalised through urban planning and the establishment of infrastructure offices by city administrations.

IV. Reality-based strategies can address local market failure

In order to develop the local cobblestone sector, it was initially necessary to accept direct procurement and its consequent market distortions. Introducing local competitive bidding in the second phase served to significantly improve accountability and curb fraudulent behaviour.

Over a period of three years, introducing increasingly-competitive procurement mechanisms has overcome market failure at the local level. Flexible management and a good understanding of local capacities have enabled UGDP to repeatedly arrive at consensus with the Ministry on the proper approaches to countering fraudulent practices.

V. Rapid and visible results encourage stakeholders to become partners in development

Initially, priority areas in cobblestone road activities were set by local governments. After the first roads were successfully paved, citizens raised demands that authorities could not ignore. Eventually, as a result of their involvement in the planning process and observation of its tangible results, people expressed their readiness to contribute to the development of their city.

VI. Success stories create opportunities for further decentralisation

In Ethiopia, the visible success of local projects has convinced federal officials to shift more responsibilities their local level counterparts. These positive achievements have in turn instilled confidence in local governments, strengthening their belief that local planning and decision-making could actually become a reality.



