Construction contracting and Civil-Military Interaction

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Introduction

In today's world, military operations grow increasingly complex, multidimensional and ambitious. The demand for a comprehensive approach has led to the inclusion of elements such as stabilization, reconstruction and development within military missions. A part of the reconstruction effort materializes in construction projects, often in cooperation with civilian actors. Usually these projects are carried out by local contractors, making the project result dependent on the contracting process. Current literature offers only limited insight as to how this contracting process is being influenced by the exceptional context.
Given the prospect of the rising importance of Civil Military Interaction[1] (CMI) and the relevance of post-conflict reconstruction projects the subject of contracting out these projects deserves closer attention. With the objective to improve insight in the contracting process and to optimize its use within CMI, this research explores the appropriate process options and the key criteria for determining the effectiveness of these options.

In the next section, the literature on contracting and CMI is reviewed. This results in a set of methods of contracting and an initial set of criteria for contracting CMI projects. The subsequent section presents the findings of an in-depth case study[2] in the southern Afghan province of Uruzgan. This case study focused on the year 2007 and on the Provincial Reconstruction Team (PRT) as the main implementing unit for the reconstruction and development effort. To validate these findings, they are complemented with data derived from other operations in Iraq, Northern Afghanistan and the Balkans. In the discussion section, theory and practice are confronted and striking issues are addressed. The conclusions from the research are presented in the final section.

Literature review

Methods of contracting from literature

The tendering procedure and the type of contract together determine the course of the process and the contractors' strategic behavior during the rest of the project. Literature study of the procurement of construction works revealed a limited number of frequently used tendering procedures. These include (1) the open public tender procedure, (2) the negotiated tender procedure with only a single contractor and (3) the negotiated tender procedure with multiple competitors (usually between 2 and 6). In the tendering procedures 1 and 3 the principal can apply a pre-selection procedure, which reduces the number of competitors. The downside of these methods is the increased risk that the contractors will reach a price agreement among themselves.
Although there are many possible types of contract, two main types are identified: (1) lump-sum and (2) unit-rates. In the case of singular negotiated tendering the difference between lump-sum and unit rates is minimal, since construction

Methods of Contracting						
		Tendering Procedure				
		Public, Open	Public with selection	Negotiated multiple	Negotiated multiple with selection	Negotiated, singular
Type of contract	Lump-sum					
	Unit-rates					

Table 1: methods of contracting

budget and costs are known to both parties and part of the negotiations. By combining the tendering procedures and the types of contract, nine available options arise that are presented in table 1.

Criteria

Criteria from construction management literature

From construction management literature the basic criteria of time, quality and cost emerge. As the focus of the research is on contracting, the general criterion of time is specified as lead time of the contracting process, the time from the decision to contract out a project to the actual awarding of the contract. General quality is specified as professionalism and quality of the contractor. Selecting a professional and quality contractor is an important factor for the project output, which can predominantly be influenced during the contracting process. The criterion of cost is specified as value for money, the balance between the contractor's product and the price.

However, the success of a construction project also depends on the cooperation of actors with differing objectives and interests. This cooperation is shaped by the contracting arrangements. Because of this contractual dimension construction work procurement fits well into the framework of Transaction Cost Economics (TCE) and Agency-theory.

TCE acknowledges that contracting out induces transaction costs and risks. The main risk consists of opportunistic behaviour by the contracted actor. To counter this risk the principal may rely on the threat of legal repercussions, although applying this would involve high costs and destroy the necessary trust. On the other hand the principal may choose to apply certain safeguards , including (1) realignment of incentives, mostly involving penalties and bonuses, (2) employment of a specialized governance structure to which to refer and resolve disputes, such as an Arbitration board and (3) the introduction of trading regularities that support and signal continuity intentions. In the context of construction this appears as cross-project relationship development. Besides these safeguards, effective cooperation can only take place if trust is developed between actors. A balance between trust and control is essential in this relationship, since generating trust reduces costs and stimulates the learning process.

From an agency-theory perspective the concept of asymmetric information is introduced as a complicating factor to the principal's control of a contractor's opportunistic behaviour. Incomplete knowledge on the side of the principal greatly increases the opportunities for opportunistic behaviour by the contractor. Gathering information to counter this mechanism is essential when contracting out construction works.

Criteria from CMI literature

Construction projects that are part of a military effort are intended to achieve goals based on CMI policy. Criteria for contracting these projects can therefore also arise from CMI policy and supporting principles.

A prominent aspect within CMI is the necessity and obligation of cooperating with and transferring responsibilities to the local authorities. This is known as capacity building and causes stronger focus on the process and on cooperation. Military control of the projects is essential because of transparency and accountability of public spending. This transparency also decreases local corruption. Military control of the process is also required for mission-related aspects such as force protection and acceptance, aiming to build local consent for the presence of the military force. Local participation, based on ownership and sustainability can contribute to this. To achieve this, contracting has to be tailored to the local situation, taking into account aspects as tribal background, employment of local personnel and the contractor's reputation. Negotiated methods seem to be

A local contractor constructing a Hospital

more appropriate for this than open public methods. Also from CMI literature the development of trust and the value of information are emerging as criteria for CMI related processes and contracting. Information is especially important because of the position of the military as a newcomer within a complex environment.

Findings

Methods of contracting in practice

In Uruzgan, the lump-sum contract was the dominant type used by the military, although respondents with civilian project management expertise suggested that unit-rate contracts might have offered opportunities that now remained unused. The open, public tender procedure was generally pursued as the most desirable option in all areas of operation. This dominance originated from the Defense Procurement Policy and the Netherlands Army Procurement Policy with their emphasis on contractor competition as a way to achieve efficiency and transparency.

Several respondents noted that the public procedure was not really public as a result of limited means for communicating the request for quotation. It was also stated that several factors, such as the local power structure, in fact caused a pre-selection, making the procedure even less open and public. According to most respondents it was likely that the military were outplayed to some extent by the contractors and local power brokers. Many military respondents experienced the process as time-consuming and ill-suiting the operational environment. Within the existing procedure in Uruzgan, criteria were drawn up by the contracting officer in cooperation with the PRT, allowing for operational criteria to be added. In Uruzgan several methods were implemented to approach a local community directly. This was needed for executing small and simple projects together with the population itself instead of via a contractor. The emphasis was on control and guidance of the project by the PRT and less on markets and competition. These processes more or less resembled the single negotiated tendering procedure. In Bosnia and Iraq sporadic use of the unit-rate contract occurred. In Bosnia the tendering procedure was partially executed by the local authorities. They selected a group of contractors for the tendering and the military could add one or more contractors to lower the risk of corruption. In Northern-Afghanistan only a limited number of contractors existed, whereas in Iraq sometimes a limited number of registered, professional contractors was invited for tender after a quality-screening. Military officials usually were aware that these processes all functioned more or less like a multiple negotiated tender procedure. In all areas, operational necessity, specific technical requirements or time pressure could prompt the military organization to adapt the process or change over to a singular negotiated tender procedure.

Criteria for contracting in practice

In the course of the case-study ten criteria were found. These criteria are summarised in table 2. For reasons of compactness, only the more exceptional criteria will be elaborated on.

1. Lead-time of the contracting process

The PRT felt the total project time to completion often was too long, since the local population was impatient and wanted to see tangible results. This made the PRT strive to compress the approval chain constantly. Contrary to this, respondents with a financial background viewed the processes as rather fast and flexible.

2. Value for money

This was a prominent criterion. In all cases the Dutch procurement policy and the notion that public spending should be efficient and accountable were mentioned as main reason.

3. Professionalism and quality of the contractor

Nearly all respondents mentioned this as a crucial, but problematic criterion. The quality of the contractor was difficult to determine beforehand. In all areas, contractual quality standards were hard to enforce legally, making the selection of a professional contractor even more important. In Bosnia and Iraq an official contractor registry-system helped partially in selecting a professional contractor. Other methods of determining contractor quality were the use of reference projects, interviews with the contractor, and experiences from earlier deployed personnel.

4. Trust

Developing a good personal relationship with the military was important to the contractors in all areas and also from the military point of view. However, this usually did not prevent the contractors from trying to overprice their projects. This discrepancy called for investing in the personal relationship but narrowly watching the price and quality.

5. Flexible attitude from the contractor

Contracts were generally provided with terms of guarantee by the contracting officer. The possibilities for legal enforcement however were limited. In Uruzgan the oral agreements that were most important to the Afghan contractors, were often arranged with the PRT. Agreements frequently turned out to be unclear and renegotiating regularly occurred. Quality control and the threat of financial repercussions were used as proverbial sticks. The prospect of future projects was implicitly used as the proverbial carrot.

6. Generate information on the civilian environment

Many were aware that the complex and unfamiliar environment gave the local contractors a lead on information, creating a situation of asymmetric information. To this end information on the construction market, involved parties to the project, cost-structure and local construction methods was gathered. A shortage on technical knowledge within the military only occurred in Afghanistan. Also, gathering information on the general situation (ground-truth) could be of importance to the projects. Security related information sometimes was an important by-product.

7. Contribute to local capacity building

By setting up projects in cooperation with the local authorities, knowledge and experience could be transferred to those authorities. This way, their capacity to govern could be enhanced. This was an important aspect in nearly all of the missions. Besides this, complex projects and the application of military quality standards were thought to stimulate the development of the local private sector.

8. Process transparency
This criterion was mentioned by the majority of respondents from all areas, mostly as an external mechanism of accountability. A respondent with a background in international development pointed out that transparency could also be important towards the local population.

9. Force protection and local participation
Considerations of force protection and local popular support were present in all areas, but especially in Uruzgan. Local participation in the project, local ownership and employment of local personnel could all contribute to a favourable effect. With that in mind, contracting sometimes focused on ethnic or tribal affiliation or specific location over constructive or financial aspects. To make this possible, a flexible and manageable contracting process was needed.

10. Contracting as a tool for stability
During the interviews, especially with the more operational oriented officials, a criterion was mentioned that had not emerged from the studied literature.Contracting CMI projects could directly facilitate co-operation and influence the local balance of power. By selectively contracting out a project to a local contractor, on specific additional terms such as employing tribally mixed unskilled labor, inter-tribal cooperation and mitigation of extremist influence in local communities could be achieved. This use of contracting as a tool was best achieved by a singular negotiated tendering procedure.

Discussion

Theory versus practice

The methods of contracting available to officials in Uruzgan and the other areas did not differ significantly. Contrary to Uruzgan, in other areas projects were contracted by military personnel from a military infrastructure detachment, who often had a background in construction management. This made them less vulnerable to asymmetric information on tenders, prices and quality standards. The size of the mission, workload of the infrastructure detachment and the relatively large number of projects made this modus operandi impracticable in Uruzgan. A strive for open, public tender procedures combined with lump-sum contracts as an ideal was present in all investigated areas. This was mostly based on procurement policy and the assumption that contracting in competition would yield low prices. In practice however, contracting CMI projects in mission areas mostly resembled multiple negotiated tendering. The de facto dominance of this method was striking. This was due to, inter alia, bounded advertising possibilities, a limited number of available, good-quality contractors, the high frequency of contracting by the military unit and the local networks that the contractors were part of. In most situations the military took precautions to offset the possible negative consequences.

> This was illustrated by the following example from a Mission team: "Our Mission team held contact with a certain area near Tarin Kowt [capital of Uruzgan province], but we lacked the opportunity to visit the area often. Still, we wanted to keep the existing contacts, for example with the village elder. We were requested to erect a wall around a school-building for security reasons by the village elder. We started a contracting process and we received three nearly identical quotations, raising suspicion about the involvement of the village elder. He was called to visit our base and confronted with the biddings and our opinion. The biddings then turned out to be from his relatives. Again a request for quotation was released, but as a reference-quotation we also requested a contractor from another area and tribe. This pressured the village elder and the local contractors enough to quote more realistic costs. The project could be started for limited cost after all."

The threat level and time-pressure of the military mission in Uruzgan stood out above the other operations, causing an operational need to compress process lead-time and raising the relative importance of this criterion. For the same reasons the importance of gathering (operational) information on the environment was much more prominent in Uruzgan. In literature, as well as in the investigated case, it is widely recognized that the contracting process itself can produce important results, in addition to the physical product. However, only in the Uruzgan case study a criterion emerged that had not been covered by literature: The use of contracting as a direct tool for stability. Although several authors point to the effects of CMI for example on force protection, these described effects are primarily passive. In Uruzgan the contracting of CMI projects sometimes directly and actively contributed to an improved security situation. Given the international tendency to further integrate different resources in a comprehensive approach it is unlikely that this criterion is only relevant in the specific circumstances of Uruzgan.

TCE theory predicted the use of three types of safeguards by (military) principals to ensure contractor compliance. Of these safeguards, the realignment of incentives was commonly used. The safeguard of employing continuity intentions, promised high utility in a situation of repeatedly contracting out projects. However, this safeguard was only limited and implicitly used, as a result of regulations that were felt to prescribe project-by-project contracting.
From this research, 10 key criteria for contracting CMI projects could be derived, which are summarized in table 2.

Key criteria for contracting CMI projects
General criteria
lead-time of the sub-contracting process
value for money, (product efficiency)
Professionalism and quality of the contractor
Trust
Flexible attitude from the contractor
CMI related criteria
Information on the civil environment
Local capacity building
Process transparency
Force protection/acceptance
Contracting as a tool for stability

Table 2: key criteria

Striking issues

Above these, some other striking issues related to CMI contracting caught the attention during the research. Although the importance of the process itself was widely agreed upon, guidance from commanders or staff sections to the practical level on possible process objectives lacked. Also, technical experience and knowledge was only limitedly available to military personnel when contracting out projects. Gathered information on costs, local standards and construction methods was not structurally filed and available although several attempts were made. In addition, political and economic information was not regularly fitted in to complete the picture.
Second, the research pointed out an es-

sential, but often overlooked actor in the process: the interpreter. The interpreters were often local and very likely to be part of certain (family, clan, entity) networks. Therefore they could willingly or forced function as a gatekeeper for the tendering procedure, unknown to the military.

Lastly, the context of the investigated operations differed greatly. The findings are therefore dependent on the mission area's characteristics and the character of the military operation. However, all situations differed even more from regular contracting circumstances. An imperfect and complex market, a lack of agreed standards and the additional objectives of the projects are all telling examples. Therefore criteria and circumstances required more flexibility and more influence of the principal on the process than what is usual in contracting. Further still, in all cases the regular criteria of time, cost and quality had to be augmented with other criteria, based on the operations' objectives and CMI principles.

Conclusion

The possible methods of contracting were formed by combining the types of contract and the tendering procedures. Although some methods were seldom used, all were mentioned as possible and occurring. The set of possible methods of contracting thus offers a basic set of options as a starting point.

The criteria, once evaluated and adjusted based on the context and the objectives of the military mission, can be used to chose and shape the contracting process. As mentioned earlier, not all criteria were equally relevant in the different mission areas, stressing the dependency on the context. Also, environments and military missions develop, requiring occasional adjustment of methods and criteria. The criteria „local capacity building", „force protection/acceptance" and „information on the civil environment" were generally thought of high importance in all contexts, as were the general criteria of professionalism and quality of the contractor and value for money.

The research findings show that contracting out CMI projects can be a valuable contribution to the military mission and the wider comprehensive approach. These findings contribute to CMI by offering ways to enlarge the possibilities of the contracting process as a tool, achieve more effective contracting and by doing so make CMI projects more effective. Investigating criteria for effective contracting makes important mechanisms explicit and offers possibilities for steering and evaluating the process. This research also shows that to the military commander contracting can be an important opportunity, and thus deserves his attention and guidance. For the implementing officers, flexibility and manoeuvre space regarding the methods of contracting is essential, since circumstances are locally variable and non-static.

To CMI theory the research offers a different perspective on construction processes, clarifying the effects of the context on the contracting process, and putting the effects of the process itself more centre stage. It also offers an introduction of Transaction Cost Economics (TCE) and agency theory on the subject of CMI projects. The safeguards from TCE and the concept of asymmetric information from agency-theory can also be very useful in a more general CMI context. The concept of asymmetric information is reinforced with the notion of the asymmetry related to the (political, social, tribal) network the agent is part of and the principal is not.

1 Within this research, the neutral term CMI is used instead of the military CIMIC or the UN's CIMCOORD. It is defined as: *"The interactions between military and non-military organizations and actors, in the context of a military operation. CMI covers a broad set of issues ranging from policy formulation, command and control to different forms of operational co-ordination and interaction between the military, local authorities, civil society organizations etc."*.

2 The research consisted of semi-structured interviews and document research.

De auteur, majoor ir. J.J.F.J. Kremers begon in 1999 na zijn studie aan de KMA als pelotonscommandant bij 43 Pagncie in Havelte. Hij vervulde diverse operationele Genie-functies en werd uitgezonden naar Kosovo, Irak en Afghanistan. Tijdens zijn operationele werk begon hij met de studie Civiele techniek aan de Universiteit Twente te Enschede, die hij in 2009 afrondde. Vanaf maart 2010 is hij ingedeeld bij de Technische Staf en werkt hij als projectmanager bij de Directie Wapensystemen van DMO.

Als part-time student en full-time officier was ik een vreemde eend in de bijt van de faculteit Construerende Technische Wetenschappen in Enschede. Nog vreemder keken mijn beoogde begeleiders toen ik, na een studie met het accent op Ontwerpprocessen, aangaf te willen afstuderen binnen Bouwprocesmanagement. De reden hiervoor lag dan ook buiten de universiteit maar binnen mijn operationele ervaringen. Door diverse uitzendperiodes raakte ik betrokken bij het managen van bouwprocessen in het kader van CIMIC. Dit onderwerp interesseerde me en bovendien was hier ruimte voor verbetering te bespeuren. Het volgende artikel is een vertaling en bewerking van mijn afstudeerscriptie en publicatie in "Construction Management and Economics".