

Environmental Sustainability and Government Procurement Reform in East Asia: Achievements and Outcomes

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Abstract: An important reform of government procurement in the last two decades is the incorporation of environmental standards in the criteria for determining the products acquired and the public works undertaken by government agencies (referred to as sustainable procurement). These requirements have been in recent years included in internationally-recognized best practices of government procurement. They affect product and design specifications, the criteria for awarding contracts, and in the case of public works contracts, they also affect the assessment of contractor performance, including the management of the works site. In recent years, governments of East Asia have adopted reforms to promote sustainable procurement to varying degrees, with noticeably more progress achieved in the developed countries than in the developing and emerging countries of the region. This paper will focus on why the developing and emerging countries of the region have lagged behind the developed countries, identifying as key factors the extent of open competition in tendering, and the budgetary, organizational and human resource constraints in procurement.

Keywords: East Asia, environmental sustainability, government procurement

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Introduction

Rapid economic growth in any country or region may be achieved at a serious cost to the environment unless preventive action is taken by governments acting independently or together. As is well-known, the cost includes depletion of non-sustainable resources, pollution of water resources, carbon emissions and air pollution, acid rain, solid waste pollution, deforestation, soil erosion, silting of rivers, reduced bio-diversity, and desertification. The damage to the environment caused by the rapid growth of the East Asian economies over the last thirty or more years is no exception. Some of the outcomes mentioned may only be avoided by effective preventive action by governments.

Government intervention to prevent environmental harm consists of outright prohibition of environmentally harmful activities, regulation of businesses whose activities harm the environment, tax incentives to reward businesses which adopt production methods and technology which prevent such harm, use of other incentives such as tradable emission credits, and public education to raise environmental awareness. But governments themselves may implement a further measure to promote environmental protection, viz. adopting procurement policies that favour businesses whose production methods and end products have a positive environmental impact. This may be referred to under various names, such as green, environmentally preferable, eco-friendly, and sustainable procurement, and affects procurement of both goods and public works. Sustainable procurement is now considered part and parcel of internationally recognized best practices in procurement, promoted by such organizations as ADB, World Bank, OECD and IMF (McCrudden, 2007; Jones, 2011).¹

¹ The terms 'sustainable' and 'sustainability' in the context of procurement may have two meanings: a) the narrow and original meaning to refer to purchasing that specifically contributes to environmental conservation.; b) the wider and now more common meaning to refer to all types of procurement designed to achieve socially desirable ends such as helping

In recent years, the governments of various countries of East Asia have adopted sustainable procurement as part of their policy to prevent or mitigate the environmental harm arising from rapid economic growth. However, the extent to which sustainable procurement has been pursued varies significantly from one country to another in the region, with those considered to be developing and emerging countries lagging behind those which are developed countries.

This paper will examine the range of reforms that have been implemented in the region to promote sustainable procurement. It will cover both the developed countries (Hong Kong, Japan, Korea, Singapore and Taiwan) and the emerging and developing countries (Cambodia, China, Indonesia, Laos, Malaysia, Philippines, Thailand and Vietnam). Concluding reasons are given to explain the different degrees of progress in implementing sustainable procurement reform between the two groups of states.

Features and Promotion of Sustainable Procurement

There are two aspects of sustainable or green procurement, viz: a) the purchase of eco-friendly goods (which refers to both their attributes and also the methods by which they were produced); b) the use of eco-friendly building designs, technology and materials and the exercise of environmentally friendly site management in public works projects.

Goods counted as eco-friendly are those comprised of recycled products and/or recyclable products, and those manufactured or assembled from renewable resources, with the components also recyclable at the end of their useful life. Green products may also consist of bio-degradable materials so as to further minimize waste. Also regarded as eco-friendly are equipment, machinery and technology

small businesses or businesses drawn from disadvantaged groups. In this paper, I have used the terms in the narrow and original sense as relating to just environmental issues.

which minimize energy consumption, water usage, and pollution of the environment over their working life. Equally important for green procurement are goods produced in a way that did not harm the environment, e.g. bio-diesel fuels, timber products from forests which are replenished and plastics from petro-chemical plants subject to strict anti-pollution regulations.

Eco-friendly public works are those where the facility is designed to minimize energy and water usage, maximize ventilation, air quality and noise mitigation, and is enhanced by proper landscaping, with the building materials manufactured from recycled products, such as crushed glass to make sand for cement and scrap steel for the manufacture of steel rods in concrete. Another aspect of sustainability in public works is environmentally responsible site management. This includes minimum land clearance, replacement of soil and rock which is excavated by backfill, proper sanitation and drainage on the works site, effective solid and liquid waste disposal, use of energy efficient construction equipment, mitigation of noise from construction equipment, avoidance of environmental health hazards arising from stagnant water, and prevention of harm to the soil quality, eco-system and bio-diversity of the neighbouring area (Kibert, 2008; Glavinich, 2008; Kunzlik, 2009).

To promote the purchase of green goods, product set asides (types of product which a procuring entity is obliged to purchase in preference to other types of product) may be applied in which a procuring entity may only purchase certified green goods within certain product categories, usually denoted by an eco-label or included in an official list of certified products. The purchase of green goods may be further promoted in the drafting of specifications and in quality or technical evaluation of tender proposals, in which high priority is given to the environmental features. Such proposals may merit an additional weightage or extra points when evaluated. In addition, preferential margins may be permitted by a procuring entity when purchasing green goods more expensive than other goods so that the prices offered are discounted by a certain percentage for evaluation purposes (though the original price is accepted

when the award is made). Similarly, subsidies may be given to the procuring entity when purchasing green goods more expensive than other goods (effectively a preferential margin) (OECD, 2007; Qiao et al, 2009; Kunzlik, 2009; OECD, 2011; Jones, 2011).

In the case of public works contracts, sustainability may be fostered by making the eligibility to bid dependent on credentials and performance of construction companies. This may be reinforced in the specifications (for designs, equipment, and materials) and in the quality or technical evaluation criteria, if they incorporate to a significant degree, the environmental attributes of the tender proposal. This includes as well environmental measures in managing the works site. The emphasis on sustainability in public works may also include the performance evaluation of a contractor in a public works project during or at the end of it. Here the question may be how far environmental standards have been met in the facility constructed and how far environmental responsibilities have been exercised in managing the works site. Poor performance ratings in this regard may make the contractor ineligible to participate in future tenders, while positive ratings may result not only in future eligibility to tender but also in a favorable evaluation of a future tender submission (Watermeyer, 2004; Jones, 2011).

To facilitate sustainable procurement, a comprehensive product and company data base is required, incorporating a rigorous assessment of the environmental attributes and performance of individual products, and environmental credentials of companies. This is necessary, for among other things, accurate eco-labelling, specification in product description, and listing of eco-friendly products containing such specifications (Lavalley & Plouffe, 2004; D'Souza et al, 2007).

Progress in Sustainable Procurement Reform in the Developed States of East Asia

Procurement of goods

Significant progress has been made in the purchase of green goods in public procurement in the developed countries of East Asia. Japan has been the main pioneer in the region in adopting green procurement of goods with the enactment of the Green Purchasing Law in 2000, followed by the Green Contract Law in 2007, supplemented by various action plans and initiatives. The Green Purchasing Law mandates all government bodies (including ministries, independent administrative institutions, local government and local independent administrative institutions) to exercise preferences through specification requirements and bid award criteria that favor recycled and recyclable products, items from renewable sources, and equipment and machines with energy saving features. The latest additions to the list are furniture products, with mandatory specifications and evaluation criteria requiring they be comprised of timber from a sustainable forest, (explained below). Many of the products within the list are certified as environmentally preferable through the Japanese eco-mark accreditation system (Perera et al, 2007; Koo & Lim, 2010).

With the introduction of the Green Contract Law in 2007, together with associated policy directives introduced in 2010, the Japanese government took a further step along the path to a fully fledged system of green procurement. These measures oblige procuring entities to exercise 'preferment' in favor of goods and services that contribute significantly to reducing green house gas emissions and other forms of pollution. The 'preferment' is undertaken through appropriate set-asides, specification requirements and bid award criteria, applicable to four major types of contract which have 'overriding priority on the reduction of greenhouse gas emissions.' These are franchise contracts for the generation and supply of electricity, procurement contracts for vehicles, ships and other goods involving energy consumption and carbon emissions, public building contracts (discussed below), and energy conservation improvement projects. The last mentioned involves retrofitting public buildings with equipment, technology and materials that reduce energy consumption and water usage (Diet of Japan [DOJ], 2007; Government

of Japan [GOJ], 2010; Koo & Lim, 2010).

The Korean government is also committed to a green purchasing policy through mandatory procurement of green goods. All procuring entities are required by the Public Procurement Service to purchase goods within relevant product categories, which have eco-labels indicating their environmental attributes, and which have, where applicable, energy saving and low carbon emission certifications. These indicate that they meet basic environmental standards (Ho et al, 2010; Koo & Lim, 2010; Choi, 2010). Preferences may be applied to products which possess energy saving attributes over and above the basic requirements needed for accreditation and labeling, through the adoption of additional specifications and tender evaluation criteria. Linked to this has been the recent creation of a special category in the government's classification of outstanding products comprising the most energy efficient products. Companies offering these products are awarded additional points in the evaluation score. A further preference is to award a 10% subsidy to procuring entities which procure the most energy efficient goods, which is the equivalent to a preferential margin (Koo & Lim, 2010; Choi, 2010; Public Procurement Service [PPS], 2009a; PPS, 2009b).

Public Works Procurement

Similar progress has been made in applying sustainability criteria to public works procurement in the developed states of East Asia, including: a) confining eligibility to tender to firms meeting environmental standards; b) including eco-friendly attributes in the specifications for building designs, equipment to be installed and construction materials to be used; c) according significant weightages to such attributes in tender evaluation.

In Singapore's public works procurement, environmental factors are now given prominence. To obtain registration with the Building and Construction Authority (BCA) (which confers eligibility to tender for

public works projects), construction companies are required to have ISO1400 certification. This attests to their ability and willingness to take into account the environmental impact of the structures they build (Ong, 2003; BCA, 2008; Jones, 2009a). An environmental management system and a good track record in meeting environmental standards also count in assessing the suitability of a contractor in a pre-qualification. Further strengthening the environmental requirements in public building projects is the 'green mark' scheme. This was introduced in 2005 to promote environmental sustainability in buildings, though the use of energy saving and water conservation technologies, garden landscaping, noise mitigation, and the use of recyclable materials. Buildings that reach the required standard are awarded the green mark, which consists of four grades: platinum, gold plus, gold and certificate. The grade given depends on how far environmental sustainability has been figured into the design and construction of the building. From 2007, all new public buildings were required to have the green mark. This means that procuring entities must set the building specifications with the green mark requirements in mind and evaluate both consultant and contractor tender submissions according to how far they incorporate environmental sustainability in line with those specifications (BCA, 2007; BCA, 2009; Jones, 2009a).

In Hong Kong, promotion of eco-friendly construction in public works is achieved through appropriate specifications and evaluation criteria. Thus building contractors and architectural and engineering consultants are given preference if they submit tender proposals in accordance with the environmental sustainability requirements of the procuring entity. Evaluation of tender proposals is, as well, partly based on the record of the firm in eco-friendly construction (Environment, Transport and Works Bureau [ETWB], 2005; Architectural Services Department [ASD], 2007). In addition, contractors are subject to rigorous quarterly and end of contract evaluations. These are based on 4 and 5 point numerical scales for a range of items. One of the items on which the contractor is graded is the 'environmental friendliness' of the

facility. This includes use of recycled and reusable materials, minimum usage of non-renewable materials, avoidance of materials that are harmful, and achieving environmental standards in the design of the facility and in the equipment and appliances installed. The environmental sustainability ratings of the contractor in the performance evaluation are taken into account in the tender proposal evaluation in future contracts (ETWB, 2005; ASD, 2007).

The Japanese government through the Ministry of Land, Infrastructure, Transport and Tourism (MLITT) has also been prominent in promoting eco-friendly construction in public works projects. As in Singapore and Hong Kong, this entails requiring procuring agencies to draft specifications and bid award criteria that favor proposals offering structural designs, equipment and building materials which meet environmental standards. Such standards involve energy and water saving, low greenhouse gas emissions, improved air quality in buildings, and increased longevity of buildings through more durable equipment and materials. They also cover proper landscaping, the use of recycled and recyclable construction materials, minimizing construction waste products, and the use of timber products from an environmentally sustainable source (DOJ, 2007; Yashiro, 2009; GOJ, 2010). The source for timber products is defined as environmentally managed forests, in which trees are legally felled on a selective and controlled basis, and replaced by new saplings. The products are then accredited through a recognized certification such as the forest stewardship council certificate (Yashiro, 2009; Illegal-logging.info, 2010). Several legal and administrative measures in Japan have promoted environmentally sustainable procurement for public works. They include the Green Procurement Law, the Green Contract Law, and the associated Policy Measures, which are mentioned above, as well as various initiatives and action plans (DOJ, 2007; Yashiro, 2009; GOJ, 2010; MLITT, 2006).

In public works procurement in Korea, similar requirements have been recently implemented to include energy conservation technology, environmentally-based designs, and eco-friendly construction materials

as key elements in design and construction specifications (PPS, 2009a).

In the same vein, Taiwan has recently strengthened the environmental requirements in public works projects, following the publication by the Public Construction Commission of a white paper and implementation plan for creating an environmentally sustainable public infrastructure. This has resulted in compulsory specifications for designs, building materials, and equipment that incorporate a wide range of environmentally-related features. Among them are energy saving and carbon reduction measures, renewable energy technology, and the use of recycled building materials. Equally important is the necessity for tender proposals to give priority to economizing the size of facilities and thereby minimizing the volume of materials being used. If such specifications are adopted and contractors adhere to them, the construction will be formally certified and labelled as a sustainable public infrastructure facility (SPI). From 2009, all new public infrastructure facilities must be certified with the SPI label. In addition, firms which achieve high standards in energy conservation, carbon reduction, and other measures enhancing environmental sustainability are publicly recognized through an award system similar to that in Singapore (Ning, 2007; Chern & Liu, 2009).

Site Management of Public Works

Sustainability in public works projects involves as well the management of the works site. In the developed countries of East Asia, environmental responsibility in works site management has been given higher priority in recent years.

In Singapore, part of the performance of contractors in public works projects is evaluated on a 10 point rating scale measuring the environmental standards achieved in the management of the site. Contractors who violate environmental regulations for proper waste disposal, prevention of mosquito breeding, sanitation and cleanliness, and minimising noise pollution, incur a negative rating on this scale. In

the worst cases violation can lead to debarment from future contracts for a certain period, as well as unfavourable evaluation in future tender submissions (Jones, 2009a).

In Hong Kong too an environmentally responsible approach to site management is taken into account in assessing eligibility to tender. To be eligible (by being registered on the list of approved public works contractors), a company must provide evidence that measures are in place to ensure the necessary environmental requirements can be met in the management of the works site (ETWB, 2005; Departmental Safety and Environmental Advisory Unit [DSEAU], 2004).

Furthermore, the quarterly and end of project performance evaluations of the contractor provide ratings of environmental performance in site management. These ratings cover environmental pollution control (minimizing water, air, noise and waste pollution, and applying a proper waste management and disposal system), maintaining the overall cleanliness of the site, and preventing mosquito breeding (ETWB, 2005; DSEAU, 2004). Unsatisfactory ratings lead to an 'adverse' evaluation, which results in sanctions known as 'regulating actions'. The usual practice is to give a formal warning (with an interview following a first adverse quarterly report). A repeated adverse quarterly report results in a 6 month suspension from tendering for other government contracts. Persistent adverse reports throughout a project will lead to an overall end of contract adverse report resulting in more serious penalties affecting eligibility to bid. Among them are financial downgrading in the list of approved public works contractors (maximum value of a project a contractor is eligible to bid for), demotion (removal from any of the category of works in the list, which the contractor has hitherto been eligible to tender for), and permanent removal from the list (ETWB, 2005; DSEAU, 2004).

In Taiwan, criteria in the evaluation of tenders for public works contracts take into account measures to ensure environmentally responsible site management contained within the tender proposal. Among them are measures to minimize the amount of excavated soil,

rock and other construction waste during the period of construction and to reuse them as much as possible. Contractors are also expected to use up-to-date energy efficient construction equipment, and to protect bio-diversity and natural habitats in the vicinity of the construction site (Chern & Liu, 2009).

Limited Sustainable Procurement Reform in the Developing and Emerging States of East Asia

In recent years, the governments of the developing and emerging states of East Asia have indicated a long term commitment to implementing sustainable procurement. Nonetheless, sustainable procurement is still largely in its infancy and only modest reforms have been made. This applies to both the procurement of goods and public works.

Procurement of Goods

As mentioned above, a central requirement in the procurement of green goods is rigorous testing and evaluation, comprehensive eco-labelling and certified listing of green products. In the developing and emerging states of the region, these only exist to a limited degree, or they do not exist at all.

Here, the example of China may be cited. There are two main lists of accredited green products in China, but they are far from comprehensive, and only cover a small percentage of products purchased. Part of the reason for this is the limited availability of green products of one form or another. In addition, as several observers have noted, the criteria to permit a product to be labelled or listed are not precise, rigorous or consistent; neither are they linked to systematic testing and evaluation (Qiao & Wang, 2011; Fuguo et al, 2010; Tian, 2010). This makes it difficult to distinguish genuine green products from

non-green products. One of the consequences of this is the attachment of green labels to non-green products or marketing of such products under false claims about their eco-friendly features (Qiao & Wang, 2011; Tian, 2010). Tian summed up this shortcoming as follows:

People are wondering whether so-called green products on the list of eco-labeled product and energy-saving products can achieve the environmental protection goal, whether they are truly green product, what is its general accepted evaluation index systems based on the theory of life cycle assessment (Tian, 2010, p. 2).

In Vietnam, few guidelines and technical resources exist to identify green products, with the result that a system for eco-labelling and listing of green products is not well-established. Without this, procuring entities are handicapped in knowing which products to purchase on environmental ground (Hoang, 2009). In Indonesia, different types of eco-labels are used but again only a narrow range of products are so identified, and, according to one survey little use is made of eco-labels in procurement (Sadikin, 2008). In the Philippines, a well-recognized eco-labelling system has existed for several years, based on ISO1400, but it has been restricted by the paucity of Philippine producers supplying green products (Virtucio, 2005).

A further obstacle is the omission in the procurement laws and regulations of the developing and emerging states of provisions mandating the purchase of green products. Added to this is the absence of guidelines on the products to be acquired and what requirements should be incorporated into the specifications and bid award criteria.

For example, in China, several measures have been passed relating to sustainable procurement, including *Government Procurement Law* and the *Clean Production Promotion Law of the People's Republic of China*, both passed in 2002 and more recently the *Government Procurement Method*. According to Qiao and Wang, they lay down

‘general requirements’ rather than specific stipulations, and urge procuring entities to give ‘priority’ to environmental purchasing imposing no binding and precise obligations on them (Qiao & Wang, 2011).

Likewise, neither the Law on Tendering of 2006 in Vietnam nor the Implementing Rules and Regulations (IRR’s) contained in the procurement decree of 2008, mandate sustainable procurement. Consequently, as one recent report put it:

There is not a regulation particularly stating that environment protection measures in the approved EIA (environmental impact assessment) must be included as a component in the procurement. Therefore, environment protection measures are treated as non-bound items and are ignored in many cases (Hoang et al, 2009, p. 32).

The same report pointed out a failure to incorporate in the tendering law and decree the environmental protection provisions specified in the Law on Environmental Protection of 2006 and other measures relating to sustainability (Hoang et al, 2009; Do, 2009; Government of the Socialist Republic of Vietnam [GSRV], 2006; GSRV, 2008). A key impediment is the lack of cooperation between the agency overseeing procurement (Department for Bidding Management) and the agency responsible for environmental protection (Ministry of Natural Resources and Environment) (Hoang et al, 2009; Do, 2009).

Another example of a limited commitment to sustainability in public procurement is the Philippines, where an Executive Order of 2004 provided a framework for sustainable public procurement but required public agencies ‘to include environmental criteria in public tenders, whenever possible and practicable’, and ‘to establish the specifications and requirements for products or services to be considered environmentally advantageous’. It is left to the procuring entity to decide when sustainable procurement is ‘possible and practicable’ and by what

criteria a purchase is to be judged ‘environmentally advantageous’ (Government of the Philippines [GOP], 2004). These are in effect non-binding provisions. The lack of a clear mandate to undertake green purchasing was reinforced by the absence of provisions, as in Vietnam, referring to green procurement in the procurement law titled Government Procurement Reform Act, 2003, the subsequent IRR’s (including the most recent introduced in 2009), and procurement instruction manuals, which took effect in 2009 (Congress of the Philippines, 2003; GOP, 2009; Government Procurement Policy Board [GPPB], 2009a; GPPB, 2009b).

In the laws and IRR’s governing procurement in Cambodia, Indonesia, Laos, there is an equal failure to address sustainability issues. Thailand, however, has developed green purchasing to a level much closer to that in the developed countries of the region. Under the Government Management Plan of January 2008, government departments were required to purchase an increasing proportion of green products in a range of categories over four years. This began at 20% in 2008 and was intended to reach 100% by the end of 2011 (Koh, 2011). The step towards green procurement has been facilitated by a comprehensive system of listing and labeling environmentally preferable goods, which has been harmonized with green product classifications in other East Asian states.

Public Works Procurement

In the developing and emerging countries of the region, eco-friendly construction in public works projects has not as yet been fully developed. For example, in the Philippines, there has been to date only limited priority given to environmental impact assessment and using eco-friendly designs and materials in public works projects. Little attention is given to assessing the environmental standards of a facility when completed and incorporating such assessment in the evaluation of contractor performance. There is thus no system of environmental

certification of a public facility once constructed; nor is there an environmental award scheme for contractors (GPPB, 2009a; GPPB, 2009c). Similar shortcomings in public works procurement exist in Vietnam, including, as mentioned above, the frequent failure to undertake an environmental assessment in drafting building and design specifications, and in appraising the facility once constructed (Hoang et al, 2009).

By the same token, environmental responsibility in site management has received a low priority in public works projects in the developing countries of East Asia. In the Philippines, for example, contractors awarded a public works contract are subject to general requirements to 'store or dispose of any equipment and surplus materials and clear away and remove from the site any wreckage, rubbish or temporary works that are no longer required' and to keep the works sites 'clean' (GPPB, 2009c). Such requirements to implement environmental responsibility are not written into specifications, tender evaluation criteria and the contractor performance evaluation; nor are they taken into account in determining bid eligibility (Construction Industry Authority of the Philippines & Philippine Domestic Construction Board, 2009; GPPB, 2009a). In other developing and emerging countries of East Asia, even these basic requirements are not met, and still less attention is given to environmental standards in site management.

Conclusion: Explaining Differences in the Promotion of Green Procurement

As discussed in the foregoing analysis, the developing and emerging countries of East Asia have not implemented sustainable procurement reform to the same extent as the developed countries. Although governments of the former have declared strong support in favour of sustainable procurement, achievements so far have been piecemeal and the legal and institutional framework to mandate and

facilitate it remains incomplete. Various factors may be posited to explain this.

Sustainable procurement requires scientific resources and technical expertise. This is necessary to enable product features, performance and methods of production to be independently tested and assessed so as to determine if they meet environmental standards. Thereby, products may be accurately labelled, graded and indexed according to such standards. An example would be the expertise and testing facilities needed to assess the energy saving performance of certain heating and cooling systems and what their overall life time costs are expected to be. Most developing countries of the region, in contrast to the developed countries, do not have the necessary facilities and expertise to enable such testing, assessment and classification to be conducted, especially for domestically produced goods. Even in the Philippines, where a national eco-labeling program has existed for about 10 years, it is still limited, according to one Philippines official, by 'inadequate technical capabilities (manpower, laboratories & equipment) for EAPS (environmentally advantageous products) testing and certification' (Virtucio, 2005).

In addition, the lack of the technical knowledge necessary in purchasing eco-friendly goods hinders tender boards and their technical sub-committees in drafting appropriate and precise specifications and award criteria. A similar lack of technical knowledge in sustainable construction limits the ability to draft eco-based design specifications, and evaluation criteria in public works projects. It, as well, prevents proper assessment of contractor performance to determine if the workmanship and materials used have met environmental standards. The problem is what is commonly termed institutional capacity constraints – the shortfall of professional competencies, management systems and resources in government agencies of developing and emerging states. Qiao and Wang, in a study of green procurement in China, highlight the lack of professional know-how and experience amongst procurement officials, including 'little knowledge about environmental protection'. In their view, 'little attention is paid to information about green

procurement' (Qiao & Wang, 2011). Hoang et al in their report assessing sustainable public procurement preparedness in Vietnam refer to a similar constraint on green purchasing:

Though the procurement staff support SPP (sustainable public procurement), they are not capable to develop procurement criteria which are environmental friendly. They need specific valid guidelines and training on SPP implementation. They also need to allocate their time to assure compliance of SPP. In other words, in order to implement SPP, there is a need for allocated human resource with training on SPP who will develop the process and supervise the implementation (Hoang et al, 2009, p. 33).

Budgetary constraints too have created obstacles to sustainable procurement among the poorer countries of the region. Often green products and designs are more expensive at the time of purchase than other goods and designs. In the case of products, this was often due to the high technology and more complex systems of production involved in their manufacture. Given restrictions on budgets in these countries, procuring entities feel they can ill-afford to purchase the more expensive green products and finance more expensively constructed eco-friendly public buildings, preferring to accept the lowest tender in such cases. In the report of sustainable public procurement preparedness in Vietnam, referred to above, it was noted that procurement officials expressed concern that the purchase of green products 'needs extra budget at the purchasing point' and 'will create an extra burden on the budget and the budget planning officers' (Hoang et al, 2009). Qiao and Wang referred to a similar constraint hindering green procurement in China in their recent study, highlighting the higher prices of green goods, insufficient budgets for green procurement, and the practice of choosing the lowest tender (Qiao & Wang, 2011).

This reluctance to purchase more expensive energy and water

efficient equipment on budgetary grounds may be attributed as well to a failure to consider the long-term cost savings that takes into account life cycle costs. Here the problem is twofold: the absence of any proper measurement of life cycle costs and a mindset that only recognizes initial rather than long-term costs. One report on sustainable procurement in 2007 referred to the need ‘to bring about change in the traditional procurement mindset that is based on “the best value for the money” rather than the best value across the project/product life-cycle—full-life costing’ (Perera et al, 2007).

A further impediment to sustainable procurement in the developing states of the region is the policy to award contracts, if possible, to local companies through various types of preferential arrangement. The protectionist nature of their procurement markets is reflected in the absence of these states from the list of signatories of the WTO Government Procurement Agreement (which obliges each signatory state to allow companies from the other signatory states access to most of its procurement market without discrimination). Such restrictions on international tenders constrain sustainable procurement in light of the limited range of local companies in developing states, able to meet environmental standards equal to those of overseas companies. By awarding contracts to local companies may mean that products supplied, designs used and works undertaken may fall short of the highest environmental standards.

In addition, even where a limited legal mandate for green procurement has been developed, the impact may be less than supposed, given obstacles to effective implementation typical in many developing and emerging countries. Such obstacles arise not only from a lack of technical expertise in drafting green specifications and award criteria, and in evaluating contractor performance as mentioned above. Also to be considered are non-adherence by procurement officials to relevant regulations when their interests and those of influential bureaucrats and politicians so dictate. This is compounded by a lack of proper oversight of procuring entities. Sidestepping regulations is especially pronounced

when corruption is prevalent as is the case in the developing and emerging countries of East Asia. Contracts may be offered to firms supplying goods or undertaking works well-below environmental standards as a result of bribes, kickbacks or crony connections (Jones, 2009b).

Another obstacle to green procurement is the lack of coordination and cooperation between, on the one hand, agencies responsible for environmental protection, and, on the other hand, both the central procurement authority (responsible for drafting procurement policy, laws and regulations) and the procuring entities themselves. The upshot is that little effort is made to incorporate environmental standards into the procurement laws and regulations, and that procuring entities simply overlook their responsibilities laid down by the environmental agencies. An example is the lack of coordination between the National Environment Agency in Vietnam and the individual procuring entities together with the Department of Bidding Management. An important reason for this is the failure to align the law governing environmental protection and the Law on Tendering and its implementing decree. As the report on sustainable procurement in Vietnam, mentioned above, indicated, the environmental protection measures stipulated in the Law on Environmental Protection do not form part of the Law on Procurement. Therefore, such measures are treated as non-binding in the context of procurement (Hoang et al, p. 32).

A similar lack of coordination and harmonization has been an obstacle to advancing green procurement in China. There is at the most only limited cooperation between the Environmental Protection Ministry on the one hand, and the Ministry of Finance and the procurement centres in the provincial and city administrations on the other. This has resulted in confusion in policy and a far from coherent range of measures relating to green procurement (Qiao & Wang, 2011). As Tian has put it:

In the existing laws and regulations, requirement of the GPP (green public procurement) is “prior procurement” of green

products and energy-saving products. This means that you can purchase green products; and you may not purchase green products. The result of such regulation is fewer sums of green products in public procurement ... (Tian, 2010, p. 2).

In the developed countries of East Asia, such obstacles to advancing sustainable procurement do not exist or are much less serious. Facilitating their progress in green procurement are a much greater range of local eco-products and designs, a more rigorous testing of products, a more comprehensive and reliable system of eco-labelling and product indexing, mandatory and specific stipulations in procuring eco-products and designs, environmental assessments of contractors performance and site management in public works. In further contrast to the developing countries of the region, there also exist in these countries higher levels of technical competence required in sustainable procurement, greater institutional and legal coherence in the procurement system, and a willingness to accept the higher initial costs of green products and designs in view of the long term benefits to the society and overall savings in life cycle costs. It should be pointed out too, that the developed countries of the region, unlike the developing and emerging countries, are signatories to the WTO's Government Procurement Agreement, which, as stated above, allows procuring entities access to a greater range of eco-products and designs.

Further sharpening the divergence is the dependence of the developed countries of East Asia upon the export of high value, knowledge intensive and specialized goods, which is the major driver of economic growth. To secure overseas markets for these goods and to ensure a competitive edge, policy makers and business leaders are mindful of the need for a reputation for quality, innovation and responsibility. Given the value attached to environmental sustainability in the global trading community, its promotion in government procurement and public works projects, as well as in the export manufacturing and commodity sectors, helps to enhance the

all-important reputation and image of the developed countries. Thereby, they can be trusted to meet the best global standards and earn the highest respect as trading countries.

No country in East Asia is more aware of the need for a brand name and reputation as a trading hub than Singapore. As an example, John Lim, the CEO of the Building and Construction Authority of Singapore, which oversees public works procurement, in a speech in 2006 referred to the 'increased global awareness of environmental sustainability' and the opportunity for Singapore's construction industry 'to develop a niche in green building technologies'. He asserted that 'our construction firms ... must leverage on the strong Singapore brand name to seize the vast opportunities in global market for growth and advancement' (BCA, 2006; Jones, 2009a). In Japan too, as Yashiro noted, Japanese firms 'put much significance on the reputation or credibility of the firm in the society' and seek to 'upgrade reputation... by doing good practice of sustainable construction' (2009). Ho et al. have suggested that Korean public organizations that adopt green procurement seek to enhance 'marketing powers' and 'public image and reputations' (2010).

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