

Put the garbage back to work

- Used Material Centers as models for sustainable urban development

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ABSTRACT

This report aims to compile and systematically assess experience and knowledge on designing and operating a 'Used Material Centre' as a vital element of sustainable urban infrastructure. It synthesizes experience gained in different urban environments and, therefore, different political, economical and socio-cultural contexts. This database is complemented by an exemplary analysis of selected parameters known to be relevant for the implementation of such a centre, which were compiled during a case study in Hong Kong. In addition to identifying the relevance of a Used Material Centre for designing sustainable urban infrastructure, the report aims to provide guidance for initiating a local centre by giving an overview over useful political programs, institutional settings and networks.



1. LEARNING FROM FUNCTIONING CENTERS

The idea of a material centre is basically quite simple: collect materials that are being thrown away elsewhere, store them some place, and make them available for reuse. Businesses as well as urban administrations and even households continuously generate large amounts of unwanted materials that, nevertheless, are in useable condition. Making them available again instead of having their material value destroyed should be of high priority, given the finite nature of the supply of resources and considering the impacts that industrial processing has on the environment. In addition, waste accumulation is reduced by reusing. Furthermore, practitioners working in education, social services, the arts, and community development have access to affordable and inspiring materials and appreciate the added value of reducing waste by reusing.

To realise this basic idea, a model of operation is needed that is thoroughly adapted to the specific political, cultural and economical circumstances of the specific location. In the following, two examples from Germany and the United States are briefly described in order to provide a better picture of what a functioning Used Material Centre can look like.

Materials for the Arts, New York / USA (MFTA) ¹

Materials for the Arts was founded in 1978. It soon became a program of the Department of Cultural Affairs, which had an interest in the unique support the service provided for the many artists and cultural groups in New York. In the late 1980s the Department of Sanitation recognized the impact MFTA had had in the area of reuse and waste reduction. As a result, MFTA started to receive regular funding from the Department of Sanitation, as part of their Waste Prevention, Reuse, and Recycling program. In 1997 the Department of Education joined the program as well, enabling MFTA to provide teachers with free materials from the storage facilities, and that way

supporting the education in New York City public schools.

By now, MFTA facilitates the reuse of over 700 tons of surplus materials per year. The organisation continues to grow and provide an inexhaustible variety of used materials. It has grown into a program with thirteen staff members, two trucks, and a 35,000-square-foot facility. As a result of the ongoing support of the three departments of the New York City administration (Cultural Affairs, Sanitation and Education) MFTA is able to provide services for artists, cultural organisations and schools without charging for the picking up and reusing of materials. In this way, the outreach and along with it, the desired effects can be maximized and are not limited by economic parameters.





Kunst-Stoffe, Berlin / Germany ²

Kunst-Stoffe was founded in 2006, as the first Used Material Centre in Germany and, moreover, continental Europe. Its mission is to promote an artistic, aesthetic and sociological exploration of reuse and second hand culture. Along with this, it aims to find new applications for reuse and upcycling and to promote second hand culture and recuperation in society as a whole. To do



so, the organisation maintains a large collection of used, discarded and surplus materials and makes them available as a sustainable resource. Furthermore, it provides equipped studio space, organises thematic events and offers educational training in creative reuse and sustainable strategies.

Kunst-Stoffe was initiated by two community organisers / artists. From a small initiative it has grown into a non-profit association with around ten parttime staff members. From the start, the organisation's strategic development has aimed both to mobilise needed resources via fundraising and via income earned from sales and services. In this sense, Kunst-Stoffe is a social enterprise, pursuing an ideational mission by adopting selected business strategies. Prices are handled on a sliding scale based on the customer's liquidity.

Public funding opportunities are decreasing in Berlin and Germany as a whole. There is no lively tradition of private funding to compensate for this. Under these circumstances, cultural initiatives have to address and involve a variety of stakeholders in order to realise their cultural, social and/or environmental mission. There is both opportunity and challenge in this: It opens opportunities for support, funding and collaboration. At the same time, it puts additional pressure on the organisation: To be publicly visible, to plan and execute additional projects on top of regular business, to compensate for the lack of planning perspective.

2. IDENTIFYING THE RELEVANCE

Research in Hong Kong proved the need to systematically involve society as a whole in issues of resource management.³ Although the Hong Kong Environmental Protection Department (EPD) does run programs on environmental education, it nevertheless sees the constant need for new ways of reaching out, especially to younger target groups.⁴ According to the Hong Kong Arts Development Council, art education is, as a result of the secondary school curriculum reform, gaining importance within schools.⁵ During senior secondary education, art-based learning experience and aesthetic development are expected to become more widespread, as a

result of the growing importance of creative skills in a knowledge based economy.

A Used Material Centre promises valuable contributions not only in the field of environmental and art education, but in other urban policy arenas as well, as shown in the following figure 1.

Supplies for creative practitioners

With respect to the field of cultural policies and creative industries, a relevant effect of a local UMC lies in the material supplies offered to creative practitioners. Space is in short supply in most urban settings, leaving few opportunities to store material supplies. Furthermore, certain materials are hard to find or not for sale at all in retail shops. A UMC helps with both these difficulties: It holds the materials until the artist or cultural organisation

needs them, and thus prevents them from taking up needed space. It makes unique supplies available for creative use. The broad range of materials available can provide inspiration for professions from art to design. Users find quite uncommon supplies for their work - cut outs, antique christmas decorations, commercial banners. The variety of materials stimulates new applications and encourages different approaches to designing, drawing from the features a given material offers.

Inventing and adapting

Waves of economical restructuring in industrialised countries has been accompanied by a rise in creative industries, knowledge is gaining significance as a productive resource. Within the process of reuse and re-appropriation, abilities to invent and adapt are being developed and disseminated, supporting the building of human capital. Such capabilities are indispensable for achieving social as well as technological innovation. In art education in particular, supplies of high quality are in short demand and expensive. Therefore, teachers often draw on free and common materials like household packaging and cardboard, often resulting in similar projects. Or they may employ commercially available kits that often do not encourage much creative experimentation. A UMC offers many possibilities beyond the latter. And the changing assortment constantly challenges teachers to come up with new projects.

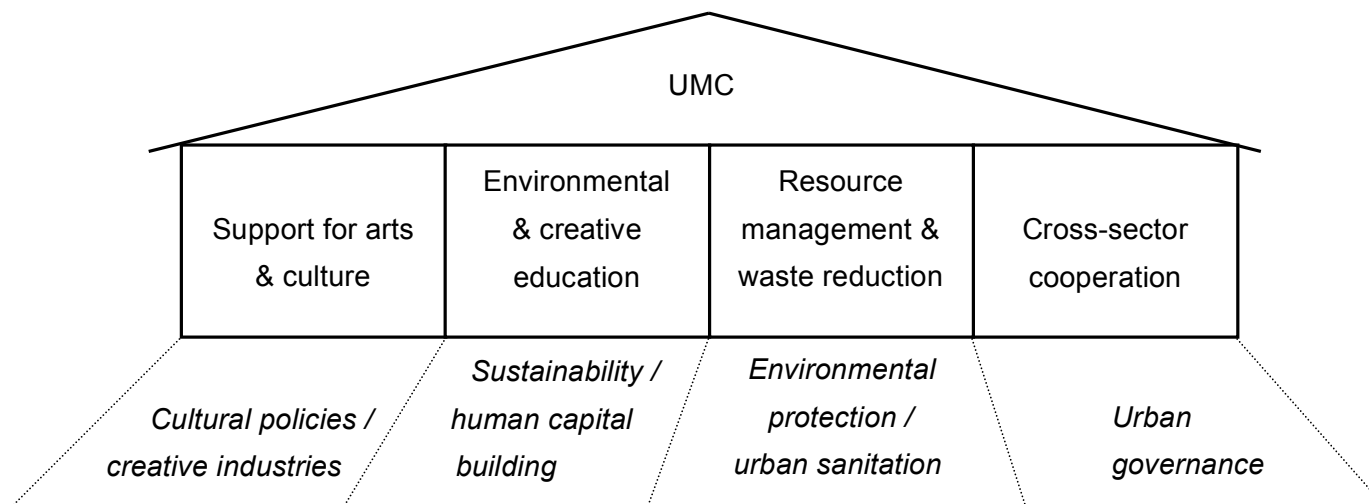


Figure 1: Expected effects of a Used Material Center in different policy arenas

A culture of reuse

Positive effects of a UMC arise in the area of environmental protection, too. Hong Kong, like other developed places, generates substantial amounts of waste as a result of affluence.⁶ Currently, over 5 million tons of waste are disposed of at landfills each year.⁷ Yet, many of those things are not waste at all but are disposed of because no alternative outlets can be found for them. By cooperating with a whole range of businesses in collecting used and discarded materials, a UMC reaches out to an important stakeholder group in waste generation. Beyond facilitating the reuse of these materials, collaboration may have an influence on how material value is assessed and may even instil a culture of reuse with the cooperating businesses. Private households are addressed both as users and donors. By becoming a partner in the exchange of used materials, they may find non-elaborate ways of reusing residual items themselves and are introduced to various practical techniques for re-appropriating outdated consumer goods.

Practice-based environmental education

For environmental education, a UMC provides a unique and authentic framework for reflecting environmental issues. It particularly invites to explore consumption patterns, mechanisms of waste production and ways toward more sustainable resource management. The different kinds of expertise that assembles in such an institution is a valuable asset for

developing educational programs. In contrast to a school a UMC offers a practice-based learning environment with ample opportunities to apply ideas and develop skills.

Urban governance of sustainability

Finally, a UMC promotes dialogue between commercial and non-commercial sectors. Its operation depends to a great extent on collaborations between those sectors as well as between the public and private sectors. Businesses are the most important source for

reusable materials and provide for the variety of the assortment and thus attractiveness of the centre. By donating materials, commercial businesses become part of an ideational cause instead of just being seen as the main origin of environmental pollution. Concerning all sectors, it can be said that becoming part of a used supply chain is likely to effect people on the level of their attitudes towards consumption and waste. In that sense, a UMC contributes to the emergence of an urban governance of sustainability.



3. IDENTIFYING STAKEHOLDER GROUPS

Making used materials accessible...

The first thing that is needed to start a UMC is useful stuff others do not want anymore. Although there is plenty of useful material that ends up as garbage, it requires constant research and a comprehensive network to find out about such materials in good time and to acquire them before they end up in landfills. Often, standardized business operations prevent outsiders from engaging with surplus materials, even if the business needs to dispose of them in any case. To separate attractive fractions of a particular surplus material, such as colourful tiles from all disposable tiles, may be considered too time consuming on the side of the business.

...and facilitating their reuse

And once used materials are collected, their reuse needs to be facilitated. Mainly two circumstances make this difficult as well. Costs for production have been increasingly externalized in capitalistic economy and therefore certain materials, parts and products have become very cheap. Accordingly, people may feel like there is no point in reusing. Secondly, industrial production has influenced consumer perception and has oriented tastes towards commercial aesthetics. Used materials, therefore, may not seem appealing at first glance.

Practicing reuse requires a general awareness for the value of materials as well as abilities to creatively re-appropriate and actively transform things and materials. At the same time, facilitating reuse throughout society supports the growth of those human resources. Therefore, running a UMC is both challenging and promising.

For one, it involves ongoing communication with different publics. Two main interest groups

can be identified: Material suppliers and users. The first group can be broken down to four categories: industry, wholesale and retail businesses, service industries, private households. The following figure 2 gives an overview of the typical roles of suppliers in the process of material acquisition and points out key aspects that have a hindering or advancing effect on realising cooperation.

Supply group	Materials available	Cooperation barriers	Expectations
Industry	<ul style="list-style-type: none"> ▪ interesting remains from production process ▪ rejects of wrought materials 	<ul style="list-style-type: none"> ▪ (fear of) interference w/ business operations ▪ liability concerns 	<ul style="list-style-type: none"> ▪ to be in touch with local cultural activities ▪ to promote green image
Wholesale & retail business	<ul style="list-style-type: none"> ▪ damaged or surplus materials ▪ seasonal articles ▪ materials w/ limited shelf live ▪ packaging and transporting supplies 	<ul style="list-style-type: none"> ▪ (fear of) interference w/ business operations ▪ fear of losing customers to UMC 	<ul style="list-style-type: none"> ▪ to be in touch with local cultural activities ▪ to promote green image
Service industries	<ul style="list-style-type: none"> ▪ spare production materials ▪ used parts from exhibitions, fairs, movie sets 	<ul style="list-style-type: none"> ▪ hectic schedules 	<ul style="list-style-type: none"> ▪ less wastefulness ▪ longer life span for parts and materials
Private households	<ul style="list-style-type: none"> ▪ various superfluous materials like fabrics, wool, paint and tools 	<ul style="list-style-type: none"> ▪ lack of mobility ▪ lack of commitment ▪ lack of information 	<ul style="list-style-type: none"> ▪ to be in touch with local cultural activities ▪ useful application of donated goods

Figure 2: Supply groups and typical characteristics

Bringing ideas of sustainable consumption to life

The second large stakeholder group for a UMC are the users, any individual or institution willing and able to utilise used and surplus materials. They are most important for the functioning of a UMC because they bring ideas of sustainable consumption, applied creativity, subsistence and

ecological design to life. Moreover, they function as multipliers and spread those ideas and how to apply them in their social surroundings. Amongst users, five subcategories can be identified. The following figure gives an overview of typical characteristics of the involvement of each subgroup.

User group	Applications of material	Main motivations	Main contributions
Artists & designers	<ul style="list-style-type: none"> ▪ art practice ▪ prototypes ▪ small editions 	<ul style="list-style-type: none"> ▪ inspiration ▪ saving money ▪ political / environmental concerns 	<ul style="list-style-type: none"> ▪ image transfer ▪ publicity
Cultural and community centers	<ul style="list-style-type: none"> ▪ renovations ▪ interior extensions ▪ utilization of outdoor space 	<ul style="list-style-type: none"> ▪ saving money ▪ building / supporting local networks 	<ul style="list-style-type: none"> ▪ publicity ▪ application & multiplication
Teachers	<ul style="list-style-type: none"> ▪ art education ▪ creative classes, art projects 	<ul style="list-style-type: none"> ▪ inspiration ▪ saving money ▪ political / environmental concerns 	<ul style="list-style-type: none"> ▪ application & multiplication
Community organizers	<ul style="list-style-type: none"> ▪ festivities, parades ▪ creative circles 	<ul style="list-style-type: none"> ▪ saving money ▪ building / supporting local networks 	<ul style="list-style-type: none"> ▪ publicity ▪ application & multiplication
Interested public	<ul style="list-style-type: none"> ▪ self help, subsistence ▪ hobby, leisure ▪ skill acquisition 	<ul style="list-style-type: none"> ▪ inspiration ▪ knowledge exchange 	<ul style="list-style-type: none"> ▪ volunteer work ▪ donations

Figure 3: User groups and typical characteristics

4. INITIAL STEPS TOWARDS SETTING UP A UMC

Building cross sector partnerships

Many steps are required before cooperation with a donor becomes effective and before a user can pick up materials. Most important in this is a strong communication strategy. Any urban environment is characterized by an abundance of materials, goods and parts that are thrown out before their functional features are worn out. This means that there is no lack of used materials. But since the assortment cannot be based solely on materials randomly found on the street, a key factor is entering into communication with the different groups marked in figure 2 as potential donors. Working out different communication strategies aimed at concrete target groups is, therefore, an important first step. A main challenge in this is identifying relevant potential donors with suitable materials. Secondly, they need to be convinced to become a partner in making waste materials available for repurposing. In order to achieve this, different fears and reservations need to be overcome, as pointed out in figure 2.

Designing logistics

To get started with the research and with building a database of donating business, it may be helpful to refer to the various business directories available in every city, which cover different business fields. In Hong Kong, e.g. the Federation of Hong Kong Industries annual members' directory proved to be quite comprehensive. For designing logistics for the actual collecting of materials, one can refer to a range of non-governmental organisations that work in adjacent fields and have gained valuable experience in collecting and redistributing used goods. In Hong Kong, e.g. the Industrial Relations Institute (IRI) successfully collects clothes and household items at private housing estates. ⁸ Beyond exchanging experiences on approaching potential donors, such organisations could become partners in sharing the necessary transportation infrastructure in order to save expenses.

Another challenge of starting and maintaining a UMC lies in making the right decisions concerning the assortment. What will be useful for the stimulation of reuse? What materials lend themselves to re-appropriation and upcycling? What will be in demand? Helpful information on this can be gained from the various stakeholder groups pointed out in figure 3.

Easy access

Once a couple of donors are involved, arrangements for the redistribution of the materials collected need to be made. An appropriate storage facility needs to be made available. Ideally, it is large enough to have different sections to present the used material assortment in a visually appealing and well organized manner. It should be located within the vicinity of potential users, and accessible by public transportation in order to not create additional restrictions to the proliferation of reuse and re-appropriation — on top of the existing ones described above.

In general, urban space is in short demand, and this is certainly the case in Hong Kong. But even there, certain commercial spaces fall empty, due to relocation movement, and in the meantime can be utilised to house a UMC. Such cases of temporarily or permanently re-appropriating commercial space can create win/win scenarios both for the legal owner of the building and for the respective users, as is being demonstrated in numerous cities. Success depends on various factors though, in particular, sufficient funding, media attention and politically influential facilitators. These considerations lead to the question of where to get the support needed to set up a UMC.



5. PARTNERS, PROGRAMS, NETWORKS

The analysis of expected outcomes has showed that operating a Used Material Centre promises positive effects in various political fields. Researching potential partners and concrete funding opportunities in Hong Kong showed that there are quiet a few departments in the urban administration that deal with environmental challenges, issues of creative and environmental education, human capital building and support for the arts and cultural development. Accordingly, there are funding schemes and programs aimed at generating impact in those areas. And, there are NGOs already dealing with issues of environmental education, waste reduction, sustainable design and consumption. In the following, possible directions for finding partners are mapped out, drawing on the findings of the case study.

A UMC as part of environmental policy

Amongst public institutions, the Environmental Protection Department (EPD) of the Hong Kong urban administration is dedicated to creating a healthy environment in Hong Kong.⁹ One program they operate as part of their environmental policy is The Hong Kong Second-hand Exchange. It is a free community service that aims to facilitate the free exchange of unwanted but still usable items by posting them on a website. The service is part of the department's efforts to reduce, reuse and

recycle waste in Hong Kong. Currently, there are more than 3,000 items posted.¹⁰ Selected best practice examples documented on site show that the idea of preserving surplus goods by passing them on is understood and appreciated by local residents. For example, one user states: "15-year-old cabinet in good condition has found a new home with people who will treasure it. Well done EPD for setting up this service. We will use it again." The readiness to resort to used consumer goods indicates a certain acceptance for reusing materials as well.

Reuse contributes to waste reduction

Beyond the Second-hand Exchange Program, the EPD is short of true waste reduction programs. Even their so-called Hong Kong Waste Reduction Website mostly provides information On waste separation programs.¹¹ Therefore, a UMC and its specific potentials for waste reduction could be an excellent instrument to complement existing environmental schemes. The EPD also runs programs to encourage businesses to take on environmental responsibility. Such schemes, like the Hong Kong Eco-Business Grand or the Hong Kong Awards for Environmental Excellence, provide opportunities to further engage businesses in environmental issues, e.g. by becoming donors for a UMC. Furthermore, the EPD administers specific funds to support NGOs in initiating projects in the area of environmental education and waste prevention, such as the Environment and Conservation Fund.





Support for the arts

As pointed out earlier, a UMC supports artists and creative education as well. With regard to this, the Hong Kong Arts Development Council (ADC) is a potential partner for such an initiative. It was set up in 1995 to plan, promote and support the broad development of the arts. Amongst diverse functions within the field of art and culture, the ADC “is dedicated to enhancing artistic creation by encouraging community-wide participation in local arts and cultural activities, with the aim of building a more enlightened community.”¹² This approach to building human capital through arts and creativity is an inherent part of the philosophy of a UMC. In the past, the ADC has published a consultation document on arts education identifying it as a key factor in meeting challenges of the 21st century, by advancing independent and critical thinking.¹³ Art is seen as a tool to nurture creativity and, thus, to complement the needs of an increasingly knowledge-based economy. Accordingly, the ADC runs various programs to support artistic development in Hong Kong, with different focuses. Regarding the relation between the art sector and business, it predicts a growing trend of businesses supporting the arts.¹⁴

A new approach to community supply

While there are governmental organisations and departments addressing social, cultural and environmental issues, a general awareness is growing about the fact that it needs additional

resources to achieve substantial effects. In Hong Kong as well as in other countries, there are political attempts to support the initiation of so-called social enterprises, which can be described as businesses with an ideational rather than a commercial purpose. The social, cultural or environmental mission of the organisation is pursued partly with the help of business activities and revenues generated. To support the growth of social enterprises, the Hong Kong Council of Social Service started the Social Enterprise Business Centre (SEBC). It may be a helpful partner in starting a UMC, as it can help with lobbying and the raising of funds and other necessary resources like space.

Throughout Europe, modes of financing public programs are being reassessed, particularly those concerning agendas raised more recently in a political phase of re-conceptualizing the welfare state. Due to globalization and economic decline, state funds are decreasing and along with it means of public governance. Within such a framework, political problems have even fewer chances to appear on the agenda. In addition to a general latency in the political system, there is an increased chance for conflicts of interest since allocating faltering public funds means taking money away somewhere else. Nonetheless, and despite economic developments and political changes, tax-based funding remains an indispensable means of running programs that contribute to lowering certain hazards that effect all and cannot be attributed to single originators — such as ecological contamination.

Mobilizing a broad range of resources

The concept of a social enterprise appears to be an effective model for incorporating resources from both the public and private sectors. It allows for their re-allocation within the organisation and thus for expanded services for less solvent social groups, such as children or the unemployed. The following figure 4 pinpoints two related variables that influence the financial scope of an organisation: How solvent the target group or customers are (Liquidity of target group) and how marketable the goods are (Percentage of market-based income). The two graphs represent two models of operating a (social or cultural) business: The conventional business model and a social enterprise:

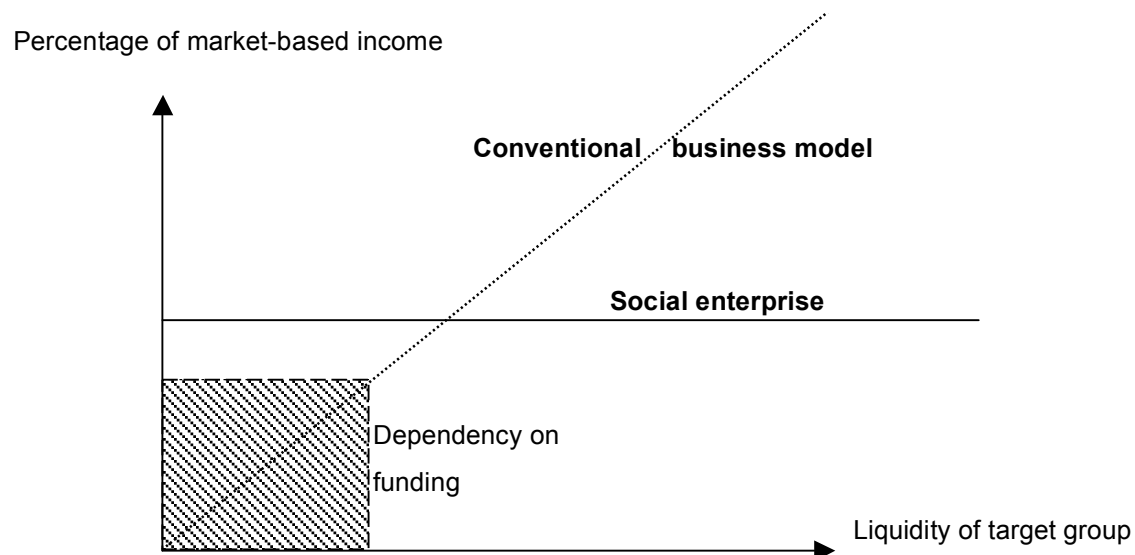


Figure 4: Operating modes of two different business models

Reaching out to diverse target groups

The figure suggests that in order to reach out to different target groups, as is necessary to promote sustainable development, a social enterprise is the more suitable model. By bringing together a determination for social innovation with a business model, it addresses both private and public sector organisations and lays the foundation for mobilising a broad range of resources. Meanwhile, it offers a variety of possibilities for reaching out to diverse target groups. Operating somewhere at the intersection of a non-profit organisation and a business, a Used Material Centre set up in this way can encourage active involvement of different interest groups while allowing for flexible decision making structures and operating models.



SUMMARY

To conclude, one can recapitulate that a Used Material Centre is a forward-looking addition to urban cultural infrastructure. Judging from experience and drawing on the findings of the case study, the concept is suited to effectively addressing a variety of challenges being faced by contemporary urban societies in Asia — and throughout most of the world: waste accumulation, scarcity of certain natural resources, lack of environmental awareness and sustainable consumption habits, insufficient facilitation of creative skills throughout society.

Through addressing different social and cultural issues, a UMC is predestined to initiate and support cross-sector communication. This kind of exchange of arguments and viewpoints is a precondition for arriving at sustainable and effective policies towards reducing waste and minimizing the use of non-renewable resources. It lends itself to be set up as a social enterprise, mobilising resources from both the private and public sectors, and offering services to a variety of target groups.

A UMC serves as a tested model to support the development of a sustainable urban culture. Furthermore, it contributes to the support of the arts and education and thus strengthens creative potentials throughout society. It questions prevailing patterns of consumerist behaviour and encourages an exploration of more sustainable ways of consuming and living, drawing on human creativity as a renewable resource. Rather than

relying on yet another attempt for technological modernization to compensate for our wastefulness, a Used Material Centre is a step towards structural change, which aims to grasp the problem where it is rooted: in our affluent life-style.

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Layout

Helsinki Metropolitan Area Reuse Centre Ltd
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ANNEX

Notes

- ¹ www.mfta.org
- ² www.kunst-stoffe-berlin.de
- ³ see also Fien, John; 2003
- ⁴ Interview with an EPD representative on 8.10.2009
- ⁵ Unpublished written statement of HK ADC of 16.10.2009
- ⁶ This problem of industrialised societies has already been known for at least 50 years. As early as 1958 John Kenneth Galbraith wrote and published a book titled 'The Affluent Society'
- ⁷ Environmental Protection Department 2005
- ⁸ Interview on 27.9. 2009 with a member of the IRI
- ⁹ see http://www.epd.gov.hk/epd/english/about_epd/vis_miss/about_epd.html, accessed 13.12.2009
- ¹⁰ <https://wasteexchange.wastereduction.gov.hk/english/index.php>, accessed 13.12.2009
- ¹¹ <https://www.wastereduction.gov.hk/en/index.htm>, accessed 13.12.2009
- ¹² <http://www.hkadc.org.hk/en/content/web.do?page=aboutADC>, accessed 20.9.2009
- ¹³ Chan / Shu 2006, p. 76
- ¹⁴ Unpublished written statement of HK ADC of 16.10.2009

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