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managing the SW of the site without appropriate attention to those impacts and their reliable mitigation at the construction site and evaluation process.

Because of the importance of the 3 R's action in influencing not only the magnitude of the waste-stream, but also its characteristics, it is essential that careful consideration be given to the influence of waste-stream reduction and waste reuse and recycling in developing a long term waste management program for an area such as construction sites. Furthermore, those responsible for development of a waste management program in an area should work with the governmental agencies, the legislative and regulatory bodies, and the public in a highly developed, organized and coordinated program to significantly reduce the magnitude and improve the character of the SW that must be managed at any construction site.





Noise

Through appropriate control of some construction sites operations and adequate land buffers between the some construction sites active areas of active deposition and adjacent properties, the noise problems of some construction sites can be reduced to insignificant levels. Vehicles are equipped with noise reduction devices (mufflers) in accordance with regulation required and local authority standards for health and safety.

2. Materials Recovery Facility (MRF)[10-11]

This is a reliable technology to recover materials from the construction site for recycling. Such measure is highly possible to recover: paper, metals, plastics, glass, wood and any other recyclable materials.

Conclusion

All approaches for SW generated from construction sites have potentially significant adverse impacts on public health and the environment. It is highly inappropriate today for those responsible for developing waste management approaches for an area to focus on the development of site without





waste each day so that SW trucks arrive at the construction site, to take away that waste, at a rate of one or two every day, must have adequate road capacity and structural integrity as well as a proper maintenance program to mitigate to some extent the adverse impacts of the truck traffic.

Litter

Litter is controlled by placement of temporary fencing or portable litter fences downwind from the working face, if necessary. The fencing, the operational area, and the construction site in general are policed on a daily basis to pick up any accumulated litter.

Dust Problems

Dust can be controlled through efficient watering of the roadways and other areas of the construction site where dust is generated. At some construction sites, this is difficult to accomplish, however, because of the shortage of water and its cost. Under those conditions, operator may conduct dust control to the least extent possible to just get regulatory requirements enforced.





attract rodents and insects that can serve as vectors of disease.

Dust

Some construction site operations contribute significant dust to the ambient air near the operation. Truck traffic over dirt roads during drier parts of the year and within the area of the construction site can result in appreciable airborne dust.

Noise

The heavy equipment used in the construction site operations and noise from trucks can significantly increase noise levels on adjacent and nearby properties so that they are damaging to public health and welfare.

Explanation of How These Impacts may be mitigated^[9]

Truck Traffic Problems

The number of SW trucks that reach the construction site during a period of time should be carefully evaluated and become one of the deciding factors in the establishment of the "size" of a waste. The construction site that generates





Discussion

There are several impacts of S.W. 1 in and around the construction site which are^[8]:

Truck Traffic

Truck traffic is one of the major causes of adverse impacts of construction site to those who own or use properties near the construction site. It is becoming increasingly clear that the transport of the SW in trucks will be one of the principal sources of adverse impacts to nearby property. In addition to noise and annoyance concerns of truck traffic, increased truck traffic can have adverse impacts on traffic flow and therefore, public safety.

Litter

One of the significant adverse impacts of municipal solid waste of construction site on owners and users of lands near the construction site is off-site litter (paper, plastic, garbage, etc.). This litter can represent a significant degradation of the aesthetic quality of the area and in some instances, a public health hazard. While most of the litter is paper and plastic, some of it contains food wastes and other material that could





Area at risk	Potential effect
Water	Pollution of ground or surface water
Air	Odour, dust smell, CO ₂
Land and soil	Contamination by pollutants relevant to the development.
Architectural	Changes to amount of land built on and use of the land, heritage effect on existing buildings of architectural interest.
Noise	Effect on the ambient noise climate, peak noise levels, sleep disturbance, loss of amenity.
Landscape	Change to the landscape, such as the amount of land covered, and hard and soft landscaping.
Archaeological	Threat to ancient monuments, site with special classifications
Flora and fauna	Effects on habitats, both land and water with special concern for specific sites or sensitive sites.
Population	Pollutants or emissions affecting leisure and recreation, infrastructure and land use.

Table 1: Potential effect of solid wastes generated from construction site [7,8]





The programme developed is to set a procedure that is practicable and applicable which gives a very clear picture on how to manage the solid waste without leaving them dispersing all around the area whether residential or commercial etc. Above all, the scope of environmental impact also studied and given full consideration when this programme has been developed^[7].

Potential effects of solid waste generated from construction sites are listed in Table 1 below.







Figure 1: construction site at Karbala University (old campus)



Figure 2: construction site near Karbala city centre





Methods of Research and Activities

Several construction sites in Karbala city including Karbala University, I have visited and pictured them (see Figure 1 and 2 below) to study these sites in order to develop a programme to manage solid waste generated at each sites. Some of the photos below clearly show no specific procedure has been adopted to manage the waste and as a result these wastes spreading around each site by the times it reaches area far away from the construction site itself.





legislation concerning packaging, additional significant reductions in the magnitude of the MSW stream can be achieved^[4]. It is clear that any planning for landfills should include a detailed analysis of the realistically anticipated waste stream with conventional waste reduction efforts, as well as that which could be achieved through highly aggressive waste stream diversion efforts. It is possible that such an analysis would reveal that the amount of waste in need of management by land filling is considerably less than is currently anticipated by the waste management authority of the region^[5-6].





Introduction

The traditional model for municipal solid waste (M.S.W.) management consists of receiving in a community's waste stream, preparing it (often minimally), and sending it to a licensed landfill[1]. Predictably, after decades of processing household waste in this way, communities across the country are running out of convenient and cost-effective landfills-a problem made more acute both by community resistance to approving new landfills and by the government restrictions regulating the design of the few landfills that are approved[2]. In future applications, landfill development will undoubtedly take longer to complete and cost more to build, manage, and close. For all of these reasons, the traditional waste management model will not continue to be a politically acceptable solution due to its critical dependence on landfills and the public's resistance to them^[3].

It is likely that through aggressive 3 R's (waste Reduction, Reuse, and Recycling) action, including, where necessary,

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Key word

waste management, solid waste, municipal waste, environmental impact, pollution, environment protection, programme, development, health, materials recovery facility (MRF).





الملخص

ان تطوير هذا البرنامج له من الاهمية لادارة النفايات في مواقع البناء المختلفة داخل وخارج مدينة كربلاء المقدسة والذي يشمل ايضا الكيفية التي يمكن من خلالها استعمال الموارد اضافة الى الطرح النهائي للمواد غير القابلة للتدوير في اتجاه تيار النفايات. طرق جمع النفايات، تدويرها ثم نقلها لطرحها كل هذه العمليات لها تأثير على التكلفة وما يتحرر عنها الى البيئة قد تم أخذه بنظر الاعتبار وبدقة بالغة عند تطوير هذا البرنامج.

قبل عام ١٩٧٠، الطمر أو الردم الصحي كان نادر الوجود، النفايات الصلبة كانت تطرح والمواد العضوية المطروحة تحرق لتقليل حجمها وهذا كان شائعا. هذا البرنامج لادارة النفايات الصلبة ليومنا الحاضر والذي يتضمن تقنيات أكثر كفاءة في استهلاك الطاقة وحماية صحة الانسان وبيئة مدينة كربلاء المقدسة من منظر المدينة.

التغيرات والتحسينات في التقنيات ناتجة عن الحاجة لخفض التأثير المباشر على البيئة والسكان الذين يعيشون بالقرب من مواقع البناء. كما وان البرنامج تم تطويره بحيث أن التقنية يمكن وضعها واستعمالها لانجاز اكبر كفاءة في ادخار الموارد والطاقة وفوق ذلك كله حماية البيئة والصحة العامة واللذان هما الهدف الاساسى للبرنامج.





تطوير برنامج لإدارة النفايات الصلبة لمواقع البناء داخل مركز مدينة كربلاء المقدسة وخارجها

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of saving resources, energy and above all environment protection.

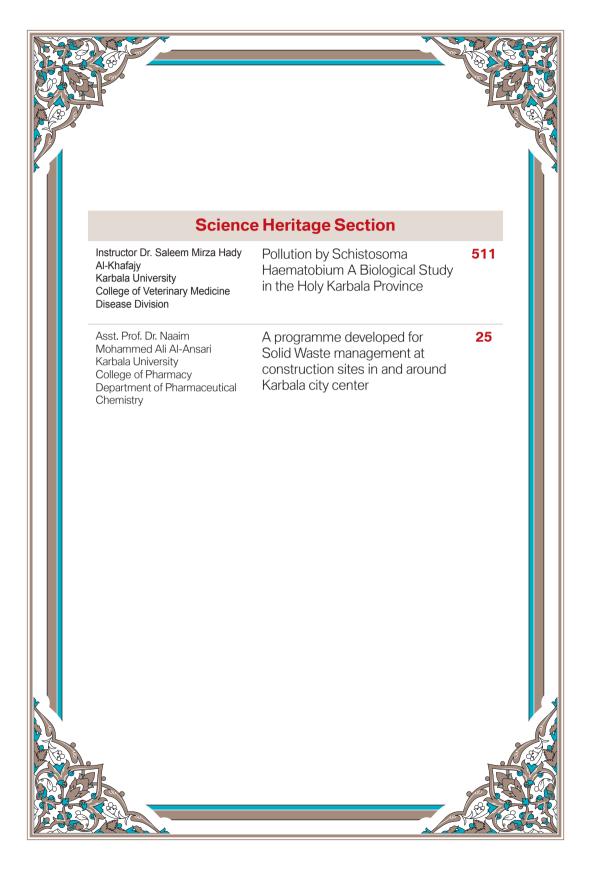


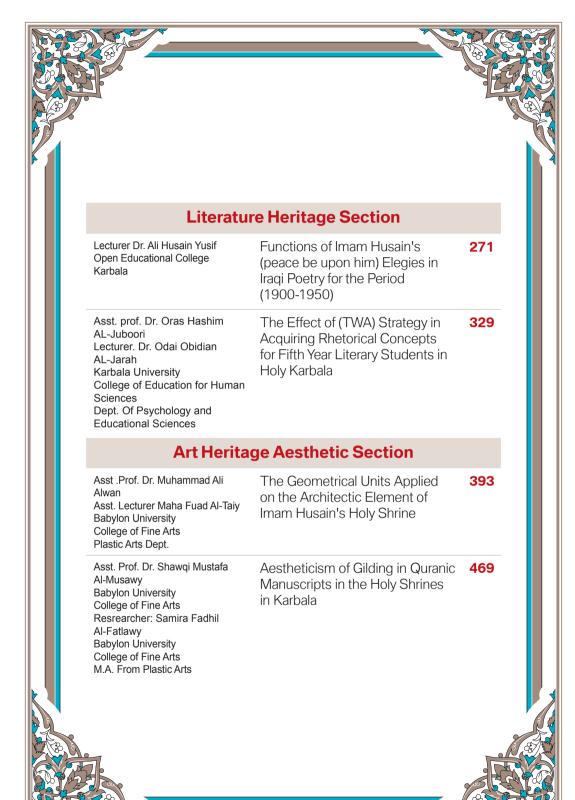


Abstract

The development of this programme is highly significant to manage solid waste (S.W.) at different construction sites in and around Karbala city center, which also involved how resources are used as well as end-of-life deposition of materials in the waste stream. Ways to collect, recycle, transport, and dispose of S.W. that affects cost and environmental releases were looked at very carefully when this programme developed. Prior to 1970, sanitary landfills were very rare, S.W. was "dumped" and organic materials in the dumps were burned to reduce volume and this was common⁽¹⁾. This programme for today solid waste management is involving technologies that are more energy efficient and protective of human health and the environment. These technological changes and improvements have resulted from the needs to reduce direct impact on environment and residents living nearby construction sites. The programme developed so technology can be deployed and used to achieve the more efficient







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know the future.

 The development with all its dimensions: intellectual, economic, etc. Knowing the heritage enhances tourism and strengthens the green revenues.

And due to all the above, Karbala' Heritage journal emerged which calls upon all specialist researchers to provide it with their writings and contributions without which it can never proceed further.

Edition & Advisory Boards

- Watching the changes, the alternations and additions which show duality of the guest and luxury in Karbala' geographic area all through history and the extent of the relation with its neighbours and then the effect that such a relation has, whether negatively or positively on its movement culturally or cognitively.
- having a look at its treasures: materialistic and moral and then putting them in their right way and positions which it deserves through evidence.
- The cultural society: local, national and international should be acquainted with the treasures of Karbala' heritage and then introducing it as it is.
- To help those belonging to that heritage race consolidate their trust by themselves as they lack any moral sanction and also their belief in western centralization. This records a religious and legal responsibility.
- acquaint people with their heritage and consolidating the relation with the descentdant's heritage, which signals the continuity of the growth in the descentdant's mode of life so that they will be acquainted with the past to help them

heritage of a wider race to which it belongs i.e. Iraq and the east. And in this sequence, the levels of injustice against Karbala' increase: once, because it is Karbala' with all that it has of the treasures generating all through history and once more because it is Karbala', that part of Iraq full of struggle and still once more because it is that part that belongs to the east, the area against which aggression is always directed. Each level has its degree of injustice against its heritage, leading to its being removed and its heritage being concealed; it is then written in shorthand and described in a way which does not actually constitute but ellipsis or a deviation or something out of context.

(3)

According to what has just been said, Karbala' Heritage Centre belonging to Al-Abbas Holy Shrine set out to establish a scientific journal specialized in Karbala' heritage dealing with different matters and aiming to:

the researchers viewpoints are directed to studying the heritage found in Karbala' with its three dimensions: civil, as part of Iraq and as part of the east.

- The most precise material to explain its history.
- The ideal excavation to show its civilization.

And as much as the observer of the heritage of a particular culture is aware of the details of its burden as much as he is aware of its facts i.e. the relation between knowing heritage and awareness of it is a direct one; the stronger the first be, the stronger the second would be and vice versa. As a consequence, we can notice the deviation in the writings of some orientalists and others who intentionally studied the heritage of the east especially that of the Muslims. Sometimes, the deviation resulted from lack of knowledge of the details of the treasures of a particular eastern race, and some other times resulted from weakening the knowledge: by concealing an evidence or by distorting its reading or its interpretation.

(2)

Karbala': it is not just a geographical area with spatial and materialistic borders, but rather its materialistic and moral treasures constituting, by itself, a heritage of a particular race, and together with its neighbours, it forms the greatest

Issue Prelude

Why Heritage? Why Karbala'?

(1)

Human race is enriched with an accumulation both materialistic and moral, which diagnoses, in its behaviour, as associative culture and by which an individual's activity is motivated by word and deed and also thinking; it comprises, as a whole, the discipline that leads its life. And as greater as the activity of such weights and as greater their effect be as unified their location be and as extensive their time strings extend; as a consequence, they come binary: affluence and poverty, length and shortness, when coming to a climax.

According to what has been just said, heritage may be looked at as a materialistic and moral inheritance of a particular human race, at a certain time, at a particular place. By the following description, the heritage of any race is described:

The most important way to know its culture.

contained a good number of researches and studies of some academic writers according to the five sections of the journal with a view of working the domains of the past with mixing it with the present data or even looking up to the future. All this time intertwisting is kept within the bounds of one circle which is Karbala.

This issue has included various academic viewpoints according to the research or study provided. A number of researches have adopted description as a method for achieving their research aim; some others have followed or adopted the experimental method and accordingly have followed the practical approach. Still some others have tended to the historical approach as a way for knowledge detecting. Others have combined two approaches belonging to two different periods to achieve what their researches aiming to. Others have adopted more approaches of the above mentioned ones.

This issue of the second year has come full of academic researchers writings but the continuity or age of the journal cannot be long without continuing such writings. Accordingly, it is our hope that the researchers, especially those specialists in Karbala heritage, provide us with their new researches and studies.

First Issue Word The Second Lighting of the Candle

Great projects start with a humble step and it is no harm that the privileges come late or some hinderences arise. It is shameful that the initiator, in his new project, quits with the first hinderence or feels disappointed. He is supposed to continue trying and to insist on achieving his goal. Without persistence and insistence no access is achieved.

This way the team of the two boards, the editorial and the advisory, address their steps as they start their second year with their fresh newborn, Karbala Heritage Authorized Journal. In their way, there may still be obstacles furnishing a grave journal with an international horizon pursued by heritage knowledge seekers from everywhere. But ambition alone is not sufficient; it needs strong determination with high impetus.

As an outcome of the determination of the two boards, the editorial and the advisory, is this magnificent book which has

wherefores of the disapproval.

- e. Researches to puplished are only those given consent by experts in the field.
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- 3. Delivering the abstracts, Arabic or English, not exceeding a page, 350 words, with the research title.
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In the Name of Allah Most Gracious Most Merciful

But We wanted to be gracious to those abased in the land, and to make them leaders and inheritors

(Al-Qasas-5)







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