DR. AKHTAR HAMEED KHAN MEMORIAL TRUST RAWALPINDI

AHKMT

ANNUAL REPORT

Oct. 2018 to Sept. 2019

Waste to Wealth

IRRC Role in Local Economy Development

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PREFACE

Pakistan was a predominantly rural country at independence, and the rural population still constitutes about two-thirds of the total population. However, it is now the most urbanized country in South Asia, with some 75.58 million people living in the cities as per 2017 census. This number is increasing at rates of 3.3 percent (nearly three times faster than in rural areas) as a result of the structural transformation of the economy and migration to urban areas in expectations of better employment opportunities and higher incomes. The urban population is therefore expected to rise by another 70- 80 million by 2030, or nearly two-thirds of the total population. Karachi and Lahore having around 14.9 million and 11.1 million populations respectively as per 2017 census will be among the world's leading mega cities and 8 metropolitan cities of Faisalabad, Multan, Gujranwala, Hyderabad, Peshawar, Rawalpindi, Islamabad and Quetta with population in excess of 1 million.

Making cities sustainable meaning creating career and business opportunities, safe and affordable housing, better water and sanitation supply systems and building resilient societies and economies has become an arduous task. A trivial question that hangs around in the face of governments around the world is how all basic necessities could be provided to the booming population at their door step.

Local Economy Development (LED) could be the missing cog in provision of all basic necessities to the people at their door step. Local Economic Development is a locally driven process by which government, business communities and labor, work collectively in a locality to stimulate and transform the economy, to create new job opportunities and to address economic growth constraints.

Dr. Marius Venter, Director, Centre for Local Economic Development, University of Johannesburg, South Africa, a Local Economy Development expert has implemented the model in different cities of South Africa and the community is reaping its benefits. His theory basically focuses on addressing the economic problems of a town or city at the local level by developing and delivering sound LED strategies.

Arif Hasan founder of Urban Resource Centre, an urban planner and architect presented a feasibility study

for improving municipal services in Karachi, way back in 2002, and his experience could well be utilized in light of Local Economy Development, as he had rightly pointed out and experienced by Dr Akhtar Hameed Khan Memorial Trust that the collection and transportation of garbage could be made a lucrative business, if proper arrangements for sorting out garbage, residential facilities for the scavengers, basic infrastructure for the recycling industry, and place for composting were made at one place.

The government under its vision of Naya Pakistan should envision promoting sustainable urban economic development. Experts like Dr Marius and Arif Hasan have given detailed models for local economy development and the government could reap their benefits. This provides an excellent opportunity for development of "Waste Cities Business Plans" for local governments to strengthen their revenue and income base in collaboration with different stakeholders for harnessing the full economic potential offered by a city. Dr Akhtar Hameed Khan Memorial Trust has established IRRC setups in Islamabad, Sindh and Khyber Pakhtunkhwa and can play an effective role in establishment of Waste Cities around the country. The model has been successfully implemented by AHKMT in Sakrand Town, Nawabshah, Sindh where five kanal land has been allocated to build around 100 rooms for workers attached with a fully functional Integrated Resource Recovery Centre.

It is felt that if scavenging and recycling can be shifted to the Waste Cities then there will be no impediment to the waste removal from the city precincts and the Sakrand Town's IRRC could be cited as an example.

The strategy could help the government to realize its dream of 'Naya Pakistan Housing' where apart from establishing multi-storey plazas for people not having their own homes, Waste Cities could be developed where apart from recycling industries, the workforce of these industrial units could also have small homes to live in.

The task is not that painstaking; it needs some commitment and will to address the basic issues pertaining to economy and environment through simple and single strategy and that is local economy development. The waste management has always been looked as an issue from a lens of crisis but the correct lens is of opportunity. These days government's basic focus is on Clean Green Pakistan movement which is a trigger to make opportunities available to public/private departments. People should understand the factor that there's money in waste management and it's treated as a business model around the world, it's time we start treating it like an opportunity in Pakistan too instead of a crisis.

IRRC:
Stepping stone towards climate resilience in Mardan

"All stakeholders are endeavoring to establish such a system that will be climate resilient and with the objective that reduction and proper management of solid waste will help address climate-related risks"

Municipalities in the low-income, developing countries spend a major proportion of their municipal revenues on Solid Waste Management (SWM). Yet service levels remain low while most disposals are deemed as unsafe. The situation is likely to worsen due to continuing population growth and urbanization in these countries. Like other developing countries, Pakistan too faces serious environmental problems. A large proportion of the municipal waste is either burned, dumped or buried illicitly on vacant land in many towns and even major cities, causing significant environmental damage and threatening human health. Worse, there are no SWM systems in place to deal with potentially hazardous waste; systems dealing with medical waste are particularly inadequate. Therefore solutions are needed urgently.

All major cities, be it Islamabad, Lahore, Rawalpindi, Karachi, Peshawar or Mardan, are facing enormous challenges in tackling the problem of urban waste. The far reaching and severe effects of climate change globally have resulted in massive human and capital loss, infrastructural damages due to natural disasters and social upheaval for the most affected communities in developing countries. Ironically, the contributors to climate change are the least affected out of its disastrous effects and hence, the effected ones are those with no or very limited means to adaptive mechanisms to minimize the effects of climate change.

Therefore, feeling the need of development of sustainable solid waste management system, the government of Khyber Pakhtunkhwa established an independent corporate utility company, Water and Sanitation Services Company Mardan (WSSCM), in 2016

Since its inception, WSSCM had been in touch with Dr Akhtar Hameed Khan Memorial Trust and a team of WSSCM headed by CEO Nasir Khan visited Dr Akhtar Hameed Khan Memorial Trust office, expressing keen interest in replication of Integrated Resource Recovery Center in Mardan city.

Consequently, a team of Dr Akhtar Hameed Khan Memorial Trust conducted a detailed visit in Mardan to assess the situation and environment for establishing an IRRC in the city, however, the concept did not get materialized due to resources constraint on part of both the parties.

Later in 2018, Norwegian Church Aid (NCA), Pakistan Chapter, contacted Dr Akhtar Hameed Khan Memorial Trust and visited their IRRC in Islamabad. After evaluating the details of the idea, its structure and success, the stakeholders decided to replicate the model in an urban slum or a city and Mardan was finalized for the project. To replicate IRRC model in Mardan, AHKMT and NCA came under a partnership agreement where NCA pooled in financial resources and AHKMT brought the technical resources in collaboration with WSSCM being the project client. Being a government entity WSSCM allocated land for piloting of 5 tons capacity IRRC facility in Mardan during 2019-20

In 2019, the process of establishment of IRRC in Mardan started with formulation of a project steering group headed by WSSCM in Mardan. To bring in the innovation and adapt the design to the need of the time and site characteristics the researchers from leading academia were involved to provide a detailed design. The IRRC facility in Mardan will be one of its kind owing to the fact that many facilities are designed in a modular way with due consideration for up-scaling and shifting to alternate larger site. The last quarter of 2019 marked

the initiation of the physical construction works on IRRCs which are likely to be completed within first quarter of 2020. However, the partial operationalization of IRRC facility started after 2 months of the construction work. The tripartite partnership was designed to ensure long-term sustainability and also successful replication and up-scaling of the facility not only within Mardan but also in other districts of Khyber Pakhtunkhwa.

It has been agreed upon by all the stakeholders after realizing the fact that proper management of solid waste is not only beneficial for them environmentally but also economically in shape of organic fertilizer for farming purposes, as Mardan could benefit from it for being an agriculture center of Khyber Pakhtunkhwa.

IRRC facility is established within the boundary of Sewerage Treatment Plant (STP) Mardan. However, before the process of composting to begin, a comprehensive process initial environmental examination (IEE) study was conducted to quantify the project's harmful effects on the surrounding environment and nearby residential areas. Green Environ Sol, conducted the study under the consultancy contract.

Upon due approval of IEE report by local environmental protection authority (EPA) IRRC Project implementation was initiated in collaboration with WSSCM.

During the course of the project design and implementation, AHKMT team visited Fruit and Vegetables Market, Mardan, with the designated project focal person from WSSCM. The purpose of the visit was to assess the generated waste and the existing practice of collection and management of waste. During the visit dumping point/container was inspected along with informal meetings with the relevant people in the area. A sanitary worker was deployed with the container on the full-time basis to ensure the waste is dumped properly within the container and there are no waste heaps spread around the container. Daily on average 2, 3 containers full of waste were collected from the market where 90% of the waste composition was found to be organic and remaining 10% largely comprised plastic and newspapers used for packaging of the vegetables and fruits. The available market waste and household waste from 1000 HH would process in IRRC Mardan.

NCA, WSSCM and AHKMT are all endeavoring to establish such a system that will be climate resilient and with the objective that reduction and proper management of solid waste will help address climate-related risks and replication of IRRC can help them achieve this target collectively.

The Waste Collection facility is provided by WSSCM on door to door level (households), AHKMT would develop the segregation system and improve the disposal include option for the two areas, 1000 households and Fruits and vegetable Market. AHKMT will take charge of the project to ensure the project is run under their guidance and staff is well trained to handle any situation.

IRRCs in Islamabad
Path to implement Clean and Green Initiative

"Integrated Resource Recovery Centers are a change in the paradigm, treating waste as a resource from which money can be made"

Current solid waste management systems in Asia are strained and landfill space is fast becoming a rare commodity. Governments face increasing costs of disposal – while public health and the environment suffer from the damaging effects of untreated solid wastes. To meet the challenge of growing amounts of waste, cities need efficient, low-cost solutions. Integrated Resource Recovery Centers (IRRCs) are a change in the paradigm, treating waste as a resource from which money can be made.

Integrated Resource Recovery Centers are decentralized neighborhood-based centers that include compost plants. IRRCs promote segregation of waste at the source. Workers collect pre-sorted waste from households, markets and businesses and bring it to the IRRC for processing. Workers sort the waste and take out the recyclable materials, such as bottles and cans, to be sold. Organic waste, including plants, vegetables, fruit and other natural materials are sent to the Compost Unit. In some cases, key nutrients are added, turning raw compost into organic fertilizer.

e-guard, a solid waste collection and disposal company, which covers all aspects of the WASH sector with an objective to take the measures to avert man-made disasters and upcoming hazards in the coming years has been addressing the issues of solid waste collection, segregation, recycling and public awareness through IRRCs.

It has several successful ventures in different parts of the country including Islamabad, Sindh and Khyber Pakhtunkhwa on its resume.

In Islamabad alone, e-guard and Dr Akhtar Hameed Khan Memorial Trust have established IRRCs at Jammu & Kashmir cooperative Housing Society (JKCHS) in Sector G-15, FECHS-Jinnah Garden, F-17 (MPCHS) B-17 Islamabad. Whereas they also have worked on experimental basis at Fruit and Vegetable Market, I-11.

JKCHS G-15

Jammu & Kashmir Cooperative Housing Society (JKCHS) in Sector G-15 was launched on commercial basis. The representatives of JKCHS shared their ordeal of solid waste management with Dr Akhtar Hameed Khan Memorial Trust. They were of the view that provision of clean environment to the residents of society was part of their manifesto. e-guard team met the executive body of the society to mull over the plan of initiating solid waste management project in the society and after successful contemplation, it was decided to set up an IRRC in the society.

In the beginning, the services were provided to 500 households which were later expanded to 2,200 households as well as commercial units.

The JKCSH IRRC is providing door-to-door collection of solid waste services to around 3,000 households through a team including 8 workers for collection and 6 for segregation purpose as well as four vehicles. The operation is carried out through four vehicles. On daily basis 3 tons of garbage is collected which results is production of 275 kilograms' compost.

FECHS-Jinnah Garden

Federal Employees Cooperative Housing Society (FECHS)-Jinnah Garden is situated along Islamabad Highway and between Naval Anchorage and Gulberg Green.

In order to improve the sanitary situation the management of FECHS-Jinnah Garden through Ali Ahmad, one of the internees of Dr Akhtar Hameed Khan Memorial Trust approached Hamid Ullah, head of e-guard and after discussing the entire process in different sittings, the society agreed to hand over the contract of solid waste collection to e-guard.

After the conditions were set, a Memorandum of Understanding was inked between FECHS-Jinnah Garden and e-guard which was to be collectively run by

the two companies.
After the agreement was signed in May 2019, work began in the society and the two companies started providing door-to-door collection and sweeping services to 2000 households for which three Suzuki pickups were hired on rent and sixteen sanitary workers and a manager were deputed on work. The society had to establish the center for waste processing.

The operation has been run through a workforce of 21 men. Among them six workers and three drivers are solely deputed for waste collection, while the rest are providing sweeping and sewage cleaning services in the society. In total, 5.5 tons' solid waste is collected from the society. Work on setting up an IRRC in the society is in progress and will be in production very soon.

It is because of the concerted efforts and hard work of the AHKMT workers, the sanitary condition of the FECHS-Jinnah Garden has improved rapidly and efforts are being made to improve it further.

MPCHS -Sector F-17

In order to improve the sanitary situation of the management of MPCHS Sector F-17 contacted Dr Akhtar Hameed Khan Memorial Trust and head of e-guard and after discussing the entire process in different sittings, the society agreed to hand over the contract of solid waste collection from the society to e-guard.

In September 2019 the strength of the workers at IRRC in Sector F-17 was 17 including a manager, two drivers and fourteen workers who provide waste collection and sweeping service to 1,000 households through two vehicles. In total, 1.5 tons' solid waste is collected from the society. Work on setting up an IRRC in the society is in progress and will be in production very soon.

MPCHS- Sector B-17 Islamabad

The management of Multi Professionals Co-operative Housing Society Islamabad, Sector B-17 approached Dr Akhtar Hameed Khan Memorial Trust and, head of e-guard to learn about the benefits of solid waste management and after thorough deliberations both sides agreed to inked a Memorandum of Understanding in this regard.

In September 2019 the strength of the workers at the IRRC in B-17 was 22 including four staffers, three drivers and fifteen workers who provide waste collection and sweeping service to 1,500 households through three Suzuki pickups and a rickshaw. In total, 3.5 tons' solid waste is collected from the society. Work on setting up an IRRC in the society is in progress and will be in production very soon.

Fruit and Vegetable Market, I-11 Islamabad

Fruit and Vegetable Market Committee engaged Dr. Akhtar Hameed Khan Memorial Trust (AHKMT) for processing of organic waste through its successful model of Integrated Resource Recovery Centre (IRRC) after deliberations between AHKMT officials and Fruit and Vegetable Market Committee. In January 2019, e-guard team met chairman of Fruit and Vegetable Market, Islamabad, and both sides agreed to take up the venture on trial basis in February 2019 after a visit of the Integrated Resource recovery Centre, Jammu and Kashmir Housing Society, G-15 by the vice chairman of Fruit and Vegetable Market, Chaudhry Arshad.

The twin cities of Rawalpindi and Islamabad waste generation like other urban centers is quite high with only the Fruit and Vegetable Market Islamabad, Sector I-11 generating around 40 tons' solid waste per day. The organic waste, often contributing to more than 50% of the total waste amount, however in case of Fruit and Vegetable Market, Islamabad the waste collected mostly or we could say around 98 per cent comprises organic waste including spoiled/damaged and leftovers of fruits and vegetables, leaves of the fruits and vegetables while only 2 per cent of it is recyclable including packing material like newspapers, plastic or wooden crates as well as metal strips to pack the crates.

A new shape of IRRC was formed for the vegetable and fruit market. And the entire process of composting was completed in 45 days.

IRRCs are proven to be self-sustaining and profitable for local governments, entrepreneurs and investors.

IRRCs help recover valuable resources from waste, making them profitable opportunities for public-private partnership. Through their simple, non-mechanical technology, IRRCs can be built and operated at low costs, meaning that initial investments can be quickly returned and that profits can be sustained throughout their operation. By selling high quality organic fertilizer, the IRRCs are able to cover their operational costs.

New strategy for IRRC in Jammu & Kashmir Cooperative Housing Society

"IRRC in Sector G-15 was run sustainably through recycling and compost production without collecting any service charges from the households. It proved that the IRRC can be run sustainably without external budget"

Regardless of the context, managing solid waste is one of biggest challenges of the urban areas of all sizes, from mega-cities to the small towns and large villages and housing societies. It is almost always in the top five of the most challenging problems for the managements of housing societies. The quality of waste management services is a good indicator of the management's governance. The way in which waste is produced and discarded gives us a key insight into how people live. In fact, if a housing society is dirty, the administration may be considered ineffective or its residents may be accused of littering.

Jammu & Kashmir Cooperative Housing Society (JKCHS) in Sector G-15 like all housing societies had to face the issue of solid waste management since its inception.

The management of JKCHS shared their ordeal with Dr. Ahktar Hameed Khan Memorial Trust. They wanted to provide clean environment to the residents of their society. They wanted to introduce an informal sector recycling, reuse and repair system in the housing society to benefit their community.

E-guard management after thorough deliberations reached a Memorandum of Understanding to collect waste from JKCHS society for 3 years.

In the meantime, a change in the management created hiccups in smooth functioning of the IRRC as the new management stopped e-guard service to collect waste from G-15.

However, after negotiations e-guard resumed the service from January 1, 2019 till September 20, 2019 where the housing society was providing 10 liter per day fuel for vehicles. But unfortunately, in the meantime JKCHS did not pay service charges to e-guard.

Earlier, AHKMT with the support of e-guard continued the waste collection and IRRC operations by implementing a new strategy under which workers,

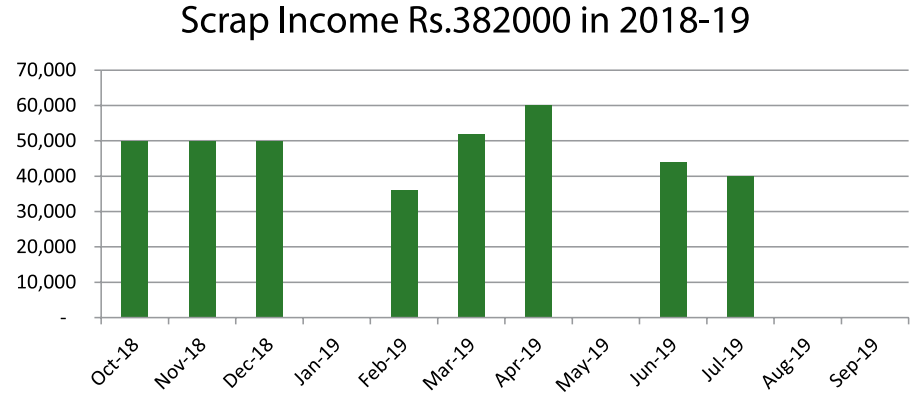
vehicles and operations time was reduced drastically to sustain the IRRC processes. During the entire duration, the operation was carried out with 6 workers, 3 vehicles with 3 drivers and that too without being paid any service charges by the housing society. The workers for half time of their duty collected the waste and in the remaining time they segregated it. Meantime, the drivers drove their vehicles and picked waste from one sector and during the other half in other sector to manage the workload.

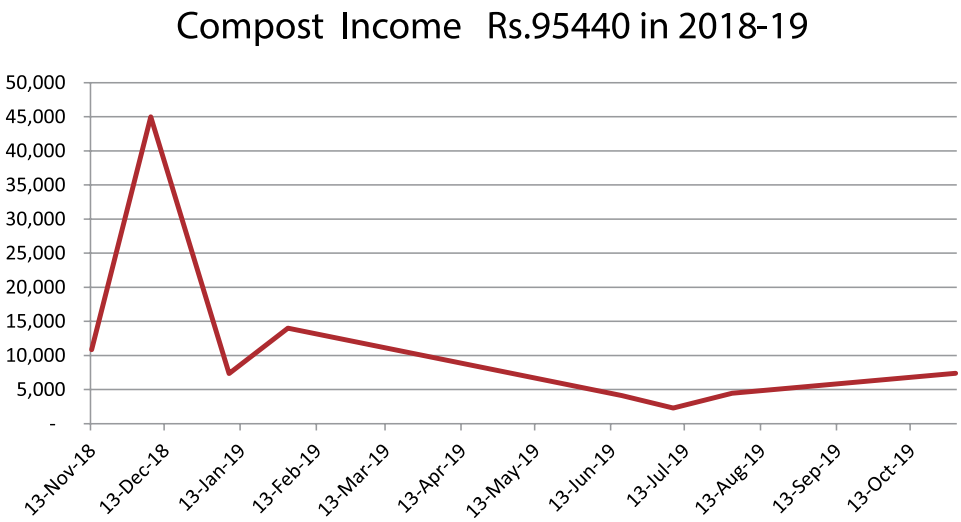
The AHKMT was able to run the IRRC in Sector G-15 sustainably through recycling and compost production

without collecting any service charges from the households. It proved that the IRRC can be run sustainably without external budget.

In September 2019, JKCHS management stopped the e-guard to collect waste. The new chairman and secretary have started their own system of waste collection. Now AHKMT is in process of negotiations with society management for supply of organic waste at IRRC for composting purposes.

This arrangement helped e-guard provide the collection services efficiently. Although the society management promised to pay the remaining bill, but till date the payment is pending.





IRRC Coordination with National Centre for Rural Development

"If anyone wants to replicate IRRC model in their respective areas for eco-friendly solid waste management, AHKMT can assist them in establishing it and running it efficiently"

AHK NCRD (National Centre for Rural Development) a government institute that is providing trainings and platform for capacity building on national level to local government, students and private sector representatives, joined hands with Akhtar Hameed Khan Memorial Trust (AHKMT) an NGO working for the welfare of the small cities and towns to reduce environmental issues through providing solid waste management and sanitation services for a training session on solid waste management on January 21-25, 2019.

AHK NCRD Training Coordinator, Ms. Saba Saleemi coordinated with AHKMT Program Manager Ms. Sumaria Gul to deliver a lecture and also make arrangements for the participants to visit IRRC and take a look at the entire process of IRRC practically. Around 80 participants from diverse groups of life were provided training on solid waste management.

It was the first of its kind training where the participants were eager to learn about the last stage of solid waste management particularly right approach to handle the disposal and management of the solid waste.

AHKMT Program Manager after delivering a thorough lecture on waste management system and its integrated approaches also arranged a visit of IRRC G-15 for the participants where they had firsthand experience of how IRRC works. Participants were briefed on IRRC establishment and working methodology, e-guard introductions and background and effects of proper management of solid waste.

She was able to make the participants who were from diverse walks of life realize that by adopting a proper solid waste management system they can not only keep their community clean, but this system can benefit them by turning their daily household waste into a productive thing.

She assured the participants that AHKMT will provide technical support to anyone who wants to establish the IRRC model. She made it clear that if anyone wants to replicate IRRC model in their respective areas for eco-friendly solid waste management, AHKMT can assist them in establishing it and running it efficiently.

They were apprised that IRRC in G-15 is proving to be self-sustaining and good example for entrepreneurs and investors. There is a wider scope to expand the existing set up to a large scale to help recover valuable resources from waste, making them profitable opportunities for public-private partnership at a much larger scale.

Through its simple, non-mechanical technology, the JKCHS IRRC can be expanded and operated at low costs, meaning that initial investments can be quickly returned and that profits can be sustained throughout their operation.

Collaboration with Ministry of Climate Change and WASH Sector

"IRRC could become a role model for women's role in development of a city"

Dr. Akhtar Hameed Khan Memorial Trust has a good working relation with the Ministry of Climate Change and has worked with the ministry as WASH sector partner in different activities.

MOCC and EPA jointly took the initiative and stopped Capital Development Authority from tendering waste dumping. CDA invited all stakeholders for suggestions in Islamabad Master Plan. As the result a study was conducted by AHKMT and Ghulam Muhammad Sons to collect WASH related data of Islamabad. Secretary MOCC advised all the stakeholders to work for the betterment of Islamabad. Water Aid, NRSP and UNICEF initiated the projects for the capital city.

AHKMT actively participated in the Prime Minister Clean Green campaign through different activities Mr. Amin Aslam visited IRRC in Sector G-15 and wished to replicate the same model nationwide. AHKMT joined MOCC meetings and events to collaborate for the improvement in the environment and climate change of the country. One of the major points discussed in these meetings was management of solid waste as per integrated approaches. All the sector partners also shared the progress and results and complained that due to non-availability of funds in private sector/ WASH Sector partners' development work is running at snail's pace.

AHKMT team also assisted MOCC and UNICEF to organize transforming SDG's into action launch of National target for SDGs (6.1 and 6.2) on 17-18 December 2018 in Islamabad. In this event especially IRRC model was showcased and best practices of IRRC model in G-15 and Sakrand were shared by Ms. Sumaria Gul and Sakrand Town Chairman Mr. Munir Shah respectively. The session was chaired by Javid Ali khan UN-Habitat consultant.

AHKMT also actively participated in joint sector Review (JSR) meeting organized by MOCC and UNICEF. AHKMT also joined the Menstrual Hygiene Management (MHM) working group and shared their experiences regarding safe disposal of sanitary pads during the workshop.

AHKMT also attended an Asian Development Bank (ADB) organized event "Gender and Smart Development in Pakistan" on April 4, 2019 in Pakistan. AHKMT Program Manager conducted a session in seminar 'Livable Cities for All' and presented the IRRC model as Green Business for women. In the development of city women can play an important role. She apprised the audience about the success of IRRC model in Islamabad as well as other parts of the country.

Recycling fruit market waste: the way to go

"The proposed IRRC at Fruit and Vegetables Market can be scaled up at commercial level using mechanical equipment"

Fruit and vegetable wastes are produced in large quantities in markets and constitute a source of nuisance in municipal landfills because of their high biodegradability. If we look at the situations around the globe fruits and vegetable markets produce large quantities of waste materials that are rich in nutrients and fruitful for composting process.

When we think of composting, we tend to think of enormous dumpsters full of everything you didn't eat for dinner that day, mixing together into an earthy, smelly, nasty concoction that seems to have a life of its own. But at its most basic level, composting is simply the deconstruction of any organic material. And it's probably already happening, whether you realize it or not, in your kitchen's plastic-lined garbage bin.

If people think composting is a dirty, unpleasant activity, that's far from the truth. It can be really fun, like one big science experiment.

The twin cities of Rawalpindi and Islamabad waste generation like other metropolitan cities is quite high with only the Fruit and Vegetable Market Islamabad, Sector I-11 generating around 30- 40 tons' solid waste per day. The organic waste, often contributing to more than 50% of the total waste amount, however in case of Fruit and Vegetable Market, Islamabad the waste collected mostly or we could say is around 98 per cent including spoiled/ damaged and leftovers of fruits and vegetables, leaves of the fruits and vegetables while only 2 per cent of it is recyclable including packing material like newspapers, plastic or wooden crates as well as metal strips to pack the crates.

The organic waste, threatens the health of residents as the indiscriminate waste dumps attract rodents and other disease carrying vectors. Organic waste is also responsible for pollution of soil and water bodies through leachate, and in the process of uncontrolled anaerobic degradation, it contributes to global warming by the produced methane. A possible step in mitigating these detrimental effects is enhancing resource recovering activities of the organic waste fraction. An obvious treatment and recovery option for organic waste is composting.

Islamabad fruit and vegetable market has been generating almost more than 30-40 tons of waste per day and they had no other option but to dump it in Sector 1-12, a site allocated by Capital Development Authority.

Fruit and Vegetable Market Committee engaged Dr. Akhtar Hameed Khan Memorial Trust (AHKMT) for processing of organic waste through its successful model of Integrated Resource Recovery Centre (IRRC) after deliberations between AHKMT officials and Fruit and Vegetable Market Committee. In January 2019, AHKMT and e-guard team met chairman of Fruit and Vegetable Market, Islamabad, and both sides agreed to take up the venture on trial basis in February 2019 after a visit of the Integrated Resource recovery Centre, Jammu and Kashmir Housing Society, G-15 by the vice chairman of Fruit and Vegetable Market, Chaudhry Arshad.

The AHKMT team explained to market committee, the entire process of utilizing the waste produced by fruit and vegetable market in a beneficial manner besides reducing its impact on environment and reducing the landfill waste.

After thorough deliberations, the Fruit and Vegetable Market, management agreed to play their part to decrease their contribution to climate change by recycling the fruits and vegetables waste.

AHKMT initiated the IRRC with zero investment while the land for the process was provided by the market committee on trial basis along IJ Principal Road. As a solution to not having a proper set up, e-guard decided to initiate the process in form of piles. In absence of a proper infrastructure; all the process took place in open

air. No office was established which could be deemed as an example of lowering the cost of the processing unit in the capital. The processing unit is less mechanical, less technical and simple in technology and requires less manpower for the whole process.

Market committee took the responsible of transporting the waste on regular basis to the designated spot through trolleys of fruit and vegetable market on the site thus by doing so they not only saved the transportation cost but also protected the environment.

A new shape of IRRC was formed for the vegetable and fruit market. With adequately sorted organic waste, IRRCs applied the piles composting method to produce good quality compost. And the entire process of composting was completed within 45 days.

The IRRC showed that it had the capacity to produce 4 tons of compost on daily basis, which is quite a source of income and healthy fertilizer for rural community or even the farmers who bring their produce to the market.

After 45 days all the processed stuff could be transferred to the different cities or farmers on demand basis. Prepared compost could easily be transferred through the trucks which are transporting the vegetables and fruits from far-flung areas of different provinces and farmers could take with them the organic compost for their farms.

The proposal is unique in its kind because it is cost effective, and could also help the initiatives of Ministry of Climate Change in realizing the dream of Clean and Green Pakistan, the vision of Prime Minister Imran Khan by contributing through integrated Resource Recovery Centers and making Islamabad a Zero Waste City.

Integrated Recovery Resource Centers, established by the AHKMT in different parts of the country are paying dividends in making this dream come true. Taking one step further, AHKMT tried to implement principles of Circular Economy into its approach for Step towards Zero Waste Pakistan which yielded good results and could be helpful in managing the waste around the city in more efficient manner than the existing one. As landfills inside the city or

on the outskirts do not yield the desired results, because they are non-environment friendly and also expensive as compared to the on spot IRRC set-up. According to the fruit vegetable market representative, Rs8-10 million are spent on transportation of solid waste from the market to I-12 dumping site per month which through IRRC set up can be saved and utilized for the improvement and betterment of the fruit & vegetables market.

AHKMT deems several stakeholders including Capital Development Authority (CDA), National Agriculture Research Center (NARC), Islamabad Agriculture extension, Parks and Horticulture Authority (PHA), Arid Agriculture University (PMASAAU), UN Habitat, Market Committee Islamabad, Ministry of Climate Change (MOCC) and Environment Protection Agency (EPA) relevant for the implementation of the IRRC in the capital city particularly Fruit and vegetable Market.

Later, Akhtar Hameed Khan Memorial Trust through a letter thanked Hassan Nasir Jamy (Secretary Climate Change), Mr. Javid Ali Khan (UNHABITAT), Dr. Muhammad Arshad (Arid University) and others members for visiting IRRC.
The main objective of the letter was to intimate the secretary climate change that AHKMT has already worked on a project at Islamabad Fruits and Vegetables Market on trial basis in February 2019. AHKMT initiated the IRRC with zero investment while the land for the process was provided by the market committee along IJP Road. He was apprised that Islamabad Fruit and Vegetable Market generates more than 40 ton waste daily. About 1,200 tons waste was processed using piles composting technology and the entire process of composting was completed within 45 days.

With reference the meeting held at IRRC G-15 Islamabad during visit of Secretary Climate Change, it was decided to replicate the IRRC model for Islamabad Fruit and Vegetables Market. Ms Sumaira Gul, Program Manager, AHKMT pointed out that AHKMT wants to scale up the IRRC model at commercial level using mechanical equipment. AHKMT wants to assist in replication of IRRC through collaboration with the stakeholders for further proceedings of the project. He was categorically told that only AHKMT and e-guard have the experience to operate IRRCs in Pakistan. Therefore, he was asked to consider the valuable technical and operations services provided by AHKMT and e-guard in establishing IRRC at the Islamabad Fruit and Vegetables Market.

The secretary was intimated that the proposal by AHKMT to establish an IRRC at Islamabad Fruit and Vegetable Market is unique in its kind because it is cost effective, and could also help the initiatives of Ministry of Climate Change in realizing the prime minister dream of Clean and Green Pakistan. AHKMT provides a platform to all stakeholders to initiate such an innovative model not only in the fruit and vegetable market but also in different areas of the city.

Earlier, Dr. Akhtar Hameed Khan Memorial Trust also invited Dr. Arshad, technical person for Pir Mehr Ali Shah Arid Agriculture University Rawalpindi along with his team to visit the processing unit and assured his technical assistance when the construction of the IRRC begins in future.

Mr. Jaoa, consultant for carbon trading in UNFCC and a former expert with UNESCAP while on a visit to Pakistan to attend Ministry of Climate Change in Islamabad was also invited to visit IRRCs in Fruit and Vegetable Market and G-15. He expressed pleasure at the development and said that if 30 tons' waste is processed on daily basis then it could be made part of the carbon trading and he can refer interested organizations to AHKMT in future.
AHKMT provides a platform to all stakeholders to initiate such an innovative model not only in the fruit and vegetable market but also in different areas of the city. It is an opportunity for those who are self-motivated and passionate enough to do something for the betterment of the humanity. It could also work as a think tank where stakeholders could collaborate with different departments, engage with multiple organizations and showcase the model.

Secretary Climate Change visit IRRC, G-15 to inaugurate Waste to Energy Project

“It is a wonderful work on waste reduction and recycling. I am confident that this is a replicable model and as secretary of climate change will support them in this respect”

Waste is emerging as a massive worldwide problem. Huge amounts of waste crowds the landfills. Not only they are eyesores, they are also highly damaging to our ecosystem and to us. However, there are some countries that are employing eco-friendly measures to tackle this problem. They are utilizing this waste to something which is of value to everyone that is energy. These leading countries using waste to generate energy are becoming role models for everyone. If other countries like US, China, and India also adopt these eco-friendly measures, then it would help Pakistan in finding better solutions to both global warming and energy crisis.

Keeping in view this objective to help sustain the environment, Ministry of Climate Change is making concerted efforts and the visit of Secretary Climate Change Hassan Nasir Jamy to Integrated Resource Recovery Centre (IRRC), Sector G-15 Islamabad to inaugurate a waste to energy project on September 27, 2019 at the center was a stepping stone in this regard.

Secretary Climate Change Hassan Nasir Jamy was accompanied by UN-Habitat consultant Javid Ali Khan, Akhtar Hameed Khan Memorial Trust (AHKMT) representatives and e-guard CEO Hamid Ullah and Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, (PMAS-AAUR) Prof. Dr. Muhammad Arshad and junior team members.

E-guard CEO Hamid Ullah briefed the secretary climate change and other visitors about the Integrated Resource Recovery Center (IRRC) working procedures. During the meeting, he explained the history of IRRC. The visitors were apprised how AHKMT is working on the eco-friendly solid waste management system to eliminate waste disposal issue and protect environment. They were told that AHKMT has established e-guard firm and also initiated the unique model of Integrated Resource Recovery Center (IRRC) that is running successfully in different parts of the country. They were told that the first integrated resource recovery center (IRRC) was established with the collaboration of UN-Habitat and UNESCAP in G-15 Islamabad. E-guard Company is handling IRRC operations successfully since last 4 years. Two IRRC models have been established in Sindh, one in KPK and 2 in Islamabad including FECHS-Jinnah Garden and MPCHS F-17. They were told that AHKMT is working on soft components of the projects like provision of technical assistance, trainings and R&D etc. while e-guard is looking after hard components of the projects like operations and management of the solid waste at the IRRCs across the country.

The dignitaries were apprised that IRRCs are aimed at recovering valuable resources from waste. The main focus of IRRC, they were told is conversion of organic waste into valuable product including compost and recyclable materials. The visitors were apprised that the capacity of IRRC established in Sector G-15 Islamabad is 3 ton per day where 10 composting boxes and 3 maturing boxes complete the process of compost preparation. It was revealed that a single composting box is filled within a week while the entire process takes around 45 days to complete. The visitors monitored leachate and rain water collection system also. They were briefed about compost screening and packing system as well.

Later Secretary Climate Change Hassan Nasir Jamy inaugurated waste to energy (Biogas) plant at the IRRC, G-15. AHKMT Solid waste management professional Engr. Muhammad Arshad done extensive research on

waste to energy plant to produce methane gas. He used the raw materials that are considered as a waste in the society. Produced biogas was prepared from raw materials like food waste, vegetables waste, fruit waste, leachate collected during composting process and household wastewater. He used all the available wastes using anaerobic digestion technology to produce methane gas. During his orientation to the visitors, he explained the benefits of waste to energy plant. Gas can be utilized for cooking, heating and electricity generation. Its byproduct digestate (effluent) is a good fertilizer. The digestate can be mixed with compost during composting process at IRRC to enrich the compost quality or it could be used for lands directly. It is eco-friendly technology. This waste to energy technology converts organic waste either in solid or liquid form into energy production and fertilizer. By producing methane gas, AHKMT has achieved the goal to produce energy from household solid waste and wastewater.

The visiting secretary was explained how IRRC can be utilized in carrying out three major activities including collection of segregated waste, processing of waste and utilization of the resource recovered. E-guard CEO also explained three sources of income from the IRRCs also which include service charges from societies, green waste and compost sale and finally the recyclables materials that could also be collected and sold through IRRCs.

In the meantime, the CEO e-guard also briefed on construction roads using plastic waste and exhibit the slabs of experiment. He told that at a small scale he has performed a successful experiment using plastic waste, bitumen and aggregate. The visitors were apprised that by utilizing plastic waste in roads construction, the cost of road construction can be reduced and it will also help in eliminating the plastic littered everywhere in Pakistan. The secretary climate change was apprised that e-guard is going to practically perform plastic road in a housing society F-17 Islamabad soon at a pilot scale.

Later in his comments secretary Climate Change said: “I am very happy to visit the IRRC G-15. The Team of dedicated experts from AHKMT, E-guard, UNHABITAT, Arid University, and others are doing a wonderful work on waste reduction and recycling. I am confident that this is a replicable model and as secretary of climate change will support them in this respect. Best of luck to all of them!”

Secretary climate change instructed Islamabad Capital Territory Administration, UNHABITAT, PMAS-AAUR, AHKMT and e-guard representatives to draft a plan for installation of IRRC at Fruit and Vegetable Market, Islamabad. He also sought a feasibility study to install an IRRC at Rawalpindi Waste Management Company’s transfer station and training center establishment for capacity building, R&D and IRRC process improvement and present them in the upcoming meeting.

The future lies in replication of IRRC models in Sindh

“Waste has always been considered to be a nuisance in most cities and societies, forgetting that these wastes may be turned into gold or something much more valuable that will boost our economy”

Solid waste management has emerged as a daunting task for the administrative and municipal authorities in many countries. Developing and underdeveloped countries usually lack proper and well developed solid waste management systems which adversely affect their public health and environment. Amongst many other environmental issues, solid waste management has turned out to be a challenge throughout the country particularly in the province of Sindh. There is dire need of focusing on better solid management strategy by developing a climate responsive policy framework in collaboration with environmental agencies and experts. Of late the province, quite rich in resources has been unable to meet the challenge successfully. Many urban centers of the province have reportedly literally become landfills and need an integrated approach to address the issue efficiently. Waste has always been considered to be a nuisance in most cities and societies, forgetting that these wastes themselves may be turned into gold or something much more valuable that will boost our economy.

Since 2007, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), in partnership with Waste Concern, has been promoting decentralized and Integrated Resource Recovery Centers (IRRCs) in secondary cities and small towns in Asia-Pacific with the objective to recover value from waste and provide livelihood opportunities to the urban poor.

Since its inception way back in 2000, as a non-government organization, Dr Akhtar Hameed Khan Memorial Trust (AHKMT) has been endeavoring to introduce and implement solid waste management related practices and research initiatives in the country. AHKMT joined the drive in 2015 and its specialized Integrated Resource Recovery Center could be deemed as one of the success stories among many, the organization has to its credit till date.

IRRC Sakrand Town

After reaping the benefits of solid waste management system in Islamabad, and keeping in view the objective of managing the solid waste management issues of rural areas, Dr Akhtar Hameed Khan Memorial Trust (AHKMT) wrote a letter to different town committees in September 2016 apprising them of the benefits of solid waste management through a decentralized recycling and composting facility, which is built and operated at low costs by using limited mechanical technology, ensuring low operational costs and minimal equipment breakdowns. Every town committee was asked if they wanted to utilize this facility for proper solid waste management in their respective areas then a waste treatment plant can be developed and handed over to non-governmental organizations or other private local companies for proper disposal of solid waste.

Dr. Akhtar Hameed Khan Memorial Trust's call was answered by Sakrand Town Committee, which invited AHKMT team for technical assistance. Sakrand town is a Taluka of the district Shaheed Benazirabad (erstwhile Nawabshah), about 18 kilometers from the Nawabshah city. Its population is approximately 31,630.

Chairman Sakrand Town Committee, Syed Muneer Shah, took the initiative and IRRC was successfully completed in 2018. After completion of the infrastructure, the operational procedure has been taken over by AHKMT and e-guard.

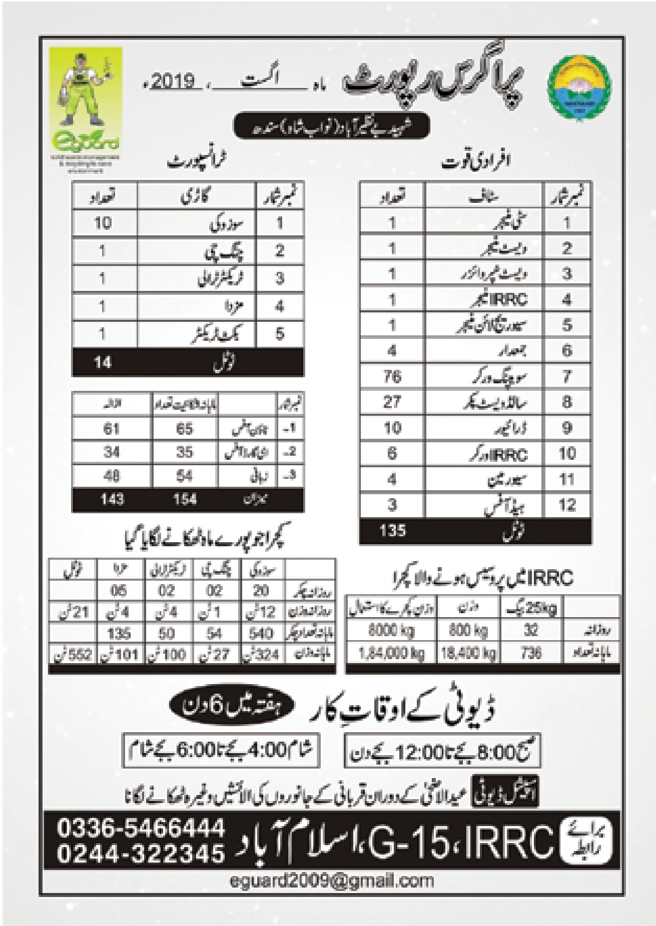
It is the first time in solid waste management history that a town committee or local government has taken charge of door-to-door collection of solid waste. The e-guard is providing the services to the entire town of 10,000 households. 135 strong staff has been deputed for the solid waste collection in the town since July 2019. A fleet of 14 vehicles including 10 Suzuki pickups, one Mazda Pickup, 1 Qinchgi rickshaw, one tractor trolley and a bucket tractor have been put into use to run the operation efficiently in the town which collect around 21 Tons solid waste from the town. e-guard is also providing door-to-door services as well as sweeping, solid waste management, and sewage cleaning in the town.

The daily organic waste collection from the town has been recorded at 8,000 kilograms which is supplied at IRRC for compost preparation where 800-kilogram compost is processed on daily basis. The production of compost is quite encouraging as 32 bags of 25 kilograms each are packed at the IRRC per day making it 18,400 kilograms of ready compost per month in 736 bags from total quantity of 184,000-kilogram organic waste.

A complaint system has also been established in the Town Committee office where 65 complaints had been received till date by the town office and 64 were addressed, e-guard received 35 complaints among which

34 were addressed, while 54 verbal complaints were also received among which 48 were addressed on the spot.

Since October 2018, the IRRC at Sakrand Town received 109,1250kg organic waste from which 109.25 tons compost was prepared and packed in 4,365 bags.



پراگرس رپورٹ ماہ اگست ، 2019ء

شہید بے نظیر آباد (نواب شاہ) سندھ

ٹرانسپورٹ

نمبر شمار	گاڑی	تعداد
1	سوزوکی	10
2	چنگ چی	1
3	ٹریکٹر ٹرالی	1
4	مزدا	1
5	بکٹ ٹریکٹر	1
	ٹوٹل	14

افرادی قوت

نمبر شمار	سٹاف	تعداد
1	سٹی منیجر	1
2	ویسٹ منیجر	1
3	ویسٹ سپروائزر	1
4	IRRC منیجر	1
5	سیوریج انچارج منیجر	1
6	جمعدار	4
7	سویپنگ ورکر	76
8	سالڈ ویسٹ ورکر	27
9	ڈرائیور	10
10	IRRC ورکر	6
11	سیوریج مین	4
12	ہیڈ آفس	3
	ٹوٹل	135

نمبر شمار		ماہانہ شکایت تعداد	ازالہ
-1	ٹاؤن آفس	65	61
-2	ای گارڈ آفس	35	34
-3	زبانی	54	48
	میزان	154	143

کچرا جو پورے ماہ ٹھکانے لگایا گیا

	سوزوکی	چنگ چی	ٹریکٹر ٹرالی	مزدا	ٹوٹل
روزانہ چکر	20	02	02	06	
روزانہ وزن	12 ٹن	1 ٹن	4 ٹن	4 ٹن	21 ٹن
ماہانہ تعداد چکر	540	54	50	135	
ماہانہ وزن	324 ٹن	27 ٹن	100 ٹن	101 ٹن	552 ٹن

IRRC میں پروسیس ہونے والا کچرا

	25kg بیگ	وزن	وزن کچرے کا استعمال
روزانہ	32	800 kg	8000 kg
ماہانہ تعداد	736	18,400 kg	1,84,000 kg

ڈیوٹی کے اوقاتِ کار — ہفتہ میں 6 دن

صبح 8:00 بجے تا 12:00 بجے دن

شام 4:00 بجے تا 6:00 بجے شام

اسپیشل ڈیوٹی عیدالاضحیٰ کے دوران قربانی کے جانوروں کی آلائشیں وغیرہ ٹھکانے لگانا

ہمارے رابطہ IRRC، G-15، اسلام آباد 0336-5466444 0244-322345

eguard2009@gmail.com

In order to facilitate the sanitary workers and provide them peace of mind, work on building a 100 rooms shelter on a five kanal piece of land is in progress in collaboration with and Sakrand Town Committee.

Keeping in view the situation of Sindh province and also to continue its mission of introduction of an appropriate model of sustainable municipal solid waste management, its importance and the requirements of smaller towns in remote areas of the country, Dr. Akhtar Hameed Khan Trust representative met Local Government Minister Sindh Mr. Saeed Ghani as well as Secretary Sindh, Mr. Khalid Shah in mid-February 2019 and apprised them of the achievements of Dr Akhtar Hameed Khan Trust in realizing its dream of replicating IRRCs in remote parts of the country and shared with them the success stories of the organization particularly Sakrand Town, where the model is working successfully. The Minister put up some queries to the AHKMT representative about the requirements for IRRC including land, construction and operational expenses.

AHKMT Program Manager Sumaira Gul recommended the town and municipal committees could be encouraged to utilize their local resources and budget, to sustain the model efficiently.

Mr. Saeed Ghani appreciated the IRRC Model and said that it is good that AHKMT decided to work in Sindh that was the dire need of the province while citing situation throughout the province particularly the metropolitan cities of Karachi and Hyderabad where there is dire need of integrated solid waste management.

Saeed Ghani asked Mr. Munir Shah to organize an orientation ceremony for other towns officials and elected representatives. He committed that the required facilitation would be provided by the Ministry & Local Government department.

Later on February 15, AHKMT representative met Mr. Khalid Haider Shah along with director Mr. Faheem Junejo and Mr. Khurram Arsalan and apprised them of the achievements of the Dr. Akhtar Hameed Khan Trust and shared with them the success stories of the organization particularly Sakrand Town.

After listening to the suggestions, Mr Khalid Shah said that a Memorandum of Understanding could be signed or a Non-Objection Certificate could be issued for starting up the work and replication of the IRRC Model in any town or area of the province. He also suggested that a letter could be written on behalf of local government to any department for plastic free component model. He asked Dr. Akhtar Hameed Khan Trust to identify the selected areas and schools for initiation of the project. Mr Khalid Shah said that the Sindh local government will also try to include this model in curriculum of local schools to apprise the young generation about the benefits of IRRC.

In the meantime, an IRRC was also established in Qasimabad, Hyderabad on the request of Ghulam Mustafa with the support of UNICEF and UN-Habitat. The project was completed in March 2018. However, later it was handed over to HANDS. But in 2019 Ghulam Mustafa sought assistance from AHKMT after HANDS staff failed to run the project efficiently.

During a visit on February 17, 2019 it was learnt that local government was unable to purchase land and had to establish the IRRC in a housing society which had less population and the waste collection site was around 9 kilometers away from the plant. Therefore, it was suggested that in order to operate and sustain the IRRC successfully there is dire need to work on grassroots level. The need for developing a proper waste collection system at primary level was stressed.

It merits mentioning here that on request of Town Committee (Sakrand Town) and Dr. Akhtar Hameed Khan Memorial Trust, UNESCAP Regional office Bangkok organized a two-day training and exposure visit of Fecal Sludge Management plant & IRRC Ratanpura Sri Lanka on December 29 and 30, 2018. A five-member delegation from Pakistan attended the training including Ms. Sumaira Gul, Mr. Abdul Haq and Mr. Khurram Arsalan and Mr. Hamid Ullah.

Crop waste recycling: A competitive opportunity

"Farmers in Sindh were scratching their heads as what could be done with the banana trees or cotton after they have borne fruit and cotton lint"

Pakistan being an agricultural country is one of the key producers of food grain, sugarcane, cotton and other agricultural products. Agricultural crops generate considerable amounts of leftover residues, with increases in food production crop residues also increasing. These leftover residues exhibit not only resource loss but also a missed opportunity to improve a farmer's income. The use of crop residues in various fields are being explored by researchers across the world in areas such as textile composite non-woven making processes, power generation, biogas production, animal feed, compost and manures, etc. The increasing trend in addition of bio-energy cogeneration plants, increasing demand for animal feedstock and increasing trend for organic agriculture indicates a competitive opportunity for crop residue in agriculture sector.

The farmers in Sindh were scratching their heads as what could be done with the banana trees or cotton after they have borne fruit and cotton lint. Therefore, keeping in view the opportunity, Dr. Akhtar Hameed Khan Memorial Trust (AHKMT) Rawalpindi, Sindh Agriculture University, Tandojam and Town Committee Sakrand have agreed to join hands for two years to collaborate for preliminary survey, research, training and commercialization on Crop Waste Recycling (CWR) and Solid Waste Management (SWM), composting, product replication and extension of IRRC.

The agreement on behalf of Dr. Akhtar Hameed Khan Memorial Trust was signed by its CEO, Sumaira Gul, Prof. Dr. Mujeebudin Sahrai, Vice-Chancellor, Sindh Agriculture University, Tandojam and Syed Munir Shah, Chairman, Town Committee, Sakrand on October 7, 2019.

Under the agreement the stakeholders will undertake pilot projects for soil fertility, soil quality and soil health, agriculture research & development, food security and poverty alleviation in Sindh.

The stakeholders want to achieve different objectives from the research work including carrying out joint studies on composting and waste production where students, researchers and the institutes will work closely. It is aimed at developing a crop-municipal waste optimum blend compost product for soil fertility and soil health. It aims at developing a comprehensive model of CWR and SWM to address issue of food security & poverty alleviation. It is also aimed at commercialization of crop-waste generated compost saleable product for extension to small farmers and to promote organic farming through crop-municipal waste recycling by the farming community in the country.

AHKMT would conduct training workshop and seminars for students, growers, academia and researchers on the subject. It will also design a study and make suggestions for replication and extension of IRRC in the province and provide the training, technical assistance for its successful implementation.

It is also planning to conduct different experiments in aerobic & anaerobic pit pile trench and IRRC for composting process. AHKMT will also assist in entrepreneurship and commercialization of compost product in collaboration with Town Committee Sakrand. Dr. Akhtar Hameed Khan Memorial Trust is also trying to patent the product for marketing nurseries, tunnels, vegetable, flowers, kitchen farms & orchards. It will also provide space to the student researchers besides giving them proper guidelines.

On the other hand, Sindh Agriculture University, Tandojam will publish the high impact research papers to benefit all institutes working in the field. It will also give access to researchers to utilize its laboratory for testing various samples of composting & the patent product. It will also have to play a role in mobilization of private and public sector funds and write a joint proposal and also use the fund through a joint account.

It will also provide space and other necessary facilitation for capacity building and research related activities that will help the researchers continue with their work more efficiently.

It will also provide its utilities and space for conduction of training and awareness workshops on composting technology and also facilitate the trainers in this regard. Meanwhile, the Sakrand Town Committee will have the responsibility to host the exposure visits of Sakrand Town. It will also play its part to share its experience with the visitors. The IRRC established in Sakrand Town will also provide a platform to the researchers to conduct their experiments.

It will also play role of a coordinator to help AHKMT in expanding the IRRC model in other municipalities. It will also harness the potential of Municipal Committee, Tandojam for saleable and patent the compost product. The main objective of the entire exercise is to know about how much crop residue is left unutilized and how best they can be utilized for alternative purposes for environmental stewardship and sustainability.

e-guard:
a decade long journey

What is e-guard?

E-guard is not only the name of a company or an income generating activity, but basically it could be reckoned as a passion to do something in life for the betterment of society, environment and the country in general. The basic aim of e-guard is to develop new horizons for the next generation is to not only to bring an improvement in the environment but also check the hazards of climate change.

To take the measure to avert man-made disasters and upcoming hazards in the coming years, e-guard is a solid waste collection and disposal company, which covers all aspects of the WASH sector. Main components of e-guard are solid waste collection, segregation, recycling and public awareness.

Initially it need more efforts, interest and input but after a certain time it requires less effort accordingly. E-guard is an initiative to encourage people to apply the rule of help yourself basis. It motivates communities and institution to fulfill their responsibility because according the bylaws of any municipality door-step waste collection is not their responsibility. The municipalities are solely responsible for the central (communal/secondary) waste collection.

Dr. Akhtar Hameed Khan Memorial Trust (AHKMT) was established in 2000 and started work in field of liquid waste (sanitation) and till 2008 the Trust replicated OPP sanitation model in different areas of Rawalpindi.

The Trust worked on donor oriented approach but after the project was completed there was nothing to sustain it.

Therefore AHKMT board members decided to work on sustainability for the organization and the staff. For this purpose a private firm e-guard was established in 2009 to work on commercial basis.

The basic idea to develop e-guard was to sustain the AHKMT for future. The e-guard initiated different projects and generated profit besides supporting AHKMT. The first project of the e-guard was initiated in Dhoke Syedan. When Water Aid phased out from the area there was nothing on hand for AHKMT to sustain. It was critical juncture in the organization's history and it needed some change. With the onset, e-guard provided waste collection service to the community and community paid them 100 rupees each per unit. Initially it was difficult to convince the community to pay for the waste collection, because they deemed it the responsibility of the government.

A motivation plan was chalked out and successfully implemented. Different tools and techniques were also executed but all of that of not without hiccups as e-guard

faced many problems and difficulties during this period.

E-guard adopted the strategy to engage and empower the local community of the area. A widow, a retired person and a young boy were engaged to carry out the task. Presently, all of them are working independently and bread winners for their families.

After that e-guard was replicated into different areas of Rawalpindi, wherein it had only the option to collect the waste and treat it on a small scale.

A waste processing center was established with name of Haryali Center. It was small low cost infrastructure not based on modern technology. In this center segregated waste was only put into small boxes on non-technical bases.

E-guard was replicated into the Jammu & Kashmir Cooperative Housing Society, Sector G-15, Islamabad. At this time UNESCAP representative Mr. Adnan Aliani visited the Haryali Center and appreciated the idea. He also visited the JKCHS. After that it was decided to develop a Recycling Plant in the G-15. It was decided upon that the entire soft component would be dealt by AHKMT while the harder component, like waste collection and processing would be the responsibility of e-guard.

E-guard also started work in Multi Professionals Cooperative Housing Society (MPCHS).

Presently e-guard is successfully sustainable project and working in other areas as well.

e-guard in 6 cities

UNHabitat Pakistan showed the interest to check the facility of the program in different cities of Pakistan. These cities were Rawalpindi, Sialkot, Gilgit, Muzaffarabad, Mansehra and Mingora.

In each city a pilot project was initiated for 1000 households. According to the methodology a POC (Project Oversight Committee) was established in each city. POC was chaired by Deputy Commissioners and Assistant Commissioners of the respective cities. In each city a local CBO/organization was involved. Their task was to implement the program in letter and spirit. In order to provide technical assistance to the workforce, different training and refresher courses were organized. Moreover monthly visits and meetings were also organized for the assistance of the local staff.

After the project period CBO's took over the program and are currently running them successfully with full devotion.

e-guard in Sector G-15

Jammu & Kashmir cooperative Housing Society (JKCHS) in Sector G-15 e-guard was launched on commercial basis. The representatives of JKCHS shared their ordeal of solid waste management. They were of the view that provision of clean environment to the residents of society was part of their manifesto. e-guard team met the executive body of the society to mull over the plan of initiating the project in the society and after successful contemplation, it was decided to start the e-guard in sector G-15.

Initially the services were provided to 500 households which was later expanded to 2200 households as well as commercial units.

IRRC

Initially e-guard was just providing waste collection and segregation services to the residents of the society. It did not have any solution for proper disposal of this segregated waste. All the waste was collected into an allocated place for segregation.

After segregation, the process to prepare compost was done on small scale in an open space, which created lots of problems.

As as a solution this issue, Integrated Recovery and Resource Center was established in Sector G-15. After that all the waste is being processed in the center for proper disposal of the waste wherein 60% green waste is converted into organic compost while25% recyclables to sell vendor and 15% reject waste for disposing off.

RajanPur

e-guard was replicated into Rajanpur with collaboration of local CBO's and municipalities. E-guard empowered and trained the local CBO's on integrated approaches. CBO started work in their areas and collected the waste on regular basis. Sanitary workers were trained on modern techniques of 3 Rs practices in order to make them successfully deal with the waste management problem in their area.

MPCHS

e-guard was started in Multi Professionals Cooperative Housing Society in Islamabad, wherein the waste collection and its disposal was the responsibility of e-guard while the collected waste was processed in the IRRC after segregation.

Relation with banks

Now e-guard is also linked with different banks and its relation with the banks is based on confidence and trust. After thorough deliberations and convincing by the e-guard management, the organization was able to get its first transport vehicle, a Suzuki Ravi, under Khadim-e-Aala Rozgar Scheme in 2015 from the government on lease. Due to expansion in work, e-guard requirements rose gradually and after leasing from Faysal Bank, JS Bank the number of vehicles increased while other facilities are provided by UBL and SME Bank.

The first step as it is always said is difficult, the system got going, as e-guard was able to secure lease of around 12 more Suzuki Ravis from different banks including one from Bank Al-Habib, three from United Bank Limited and eight from JS Bank.

At this time e-guard has 17 vehicles on lease which are working in Sakrand and Islamabad.

Show casing of e-guard

The UNESCAP and Waste Concern organized a World Urban Forum event from 7th to 13th of February, 2018 at Kuala Lumpur, Malaysia with a focus on "supporting the implementation of the New Urban Agenda: pro-poor local approaches for sustainable urban waste management". UNESCAP and Waste Concern have successfully introduced the decentralized model for Waste Management in various countries such as Bangladesh, Pakistan etc. and with the co-operation of local organizations have successfully executed it by reproducing the idea of Integrated Resource Recovery Centers (IRRC) which have been successes at the local level. In addition, the model has enhanced the local adoption of 3R practices hence successfully dealing with the waste management problem in the country. The objective of the event was to share lessons and outcomes from the IRRCs and highlight to the representatives of cities and partner organizations the value of multi stakeholder, pro-poor, inclusive and integrated solutions to urban waste management and the contributions of integrated approaches to the implementation of regional and global agendas for sustainable development. All participants from various countries and partner organizations were invited for useful input and incorporating best practices globally and the lessons learned during the process.

E-guard representative shared why it felt the need of establishing IRRC in Pakistan.

She explained that the approach of IRRC was adopted to use waste as resource, IRRC is necessary for sustainability of solid waste management in small cities, to encourage waste to resource by cheapest cost operation, promotion

of decentralized approach for solid waste management, echo friendly model, and whether private sector and government could operate jointly or on separate grounds, they could address the issue of waste as a social enterprise.

e-guard replicating the model in three provinces and four cities with the following details:

- **The Province of Sindh**

1. IRRC was established at Hyderabad city with support of an NGO and sponsor by UNESCAP (Rs5 million budget).
2. At Sakrand Town, Nawabshah by the support of local government (Sakrand Town Committee) by providing land and Rs2.5 million fund

- **The Province of Punjab**

1. At Hasilpur, UC Qaimpur, with the support of NRSP WISE project and UC administration provided and constructed STP sewerage treatment plant waste water disposal point; where AHKMT provided technical assistance to establish door-to-door primary collection. Waste segregation and compost processing process for the NRSP team and CRPs

- **The Province of Khyber Pakhtunkhwa**

1. Mansehra District city area where district administration provided support to e-guard and AHKMT for 6 months, as technical support partner for establishment of waste collection and processing unit up to 5 ton capacity. The District Commissioner agreed to establish 20 ton capacity IRRC with the support of TMA and District fund

- **Federal Capital (Islamabad City)**

  Another IRRC is planned for 5 ton capacity in MPCHS a private housing society in Sector F-17 with MPCHS providing land and approved initially Rs3.5 million budget for two ton capacity IRRC gradually it will increase the funding for extension of capacity

As now Ministry of Climate Change cannot directly donate funds for sanitation due to 18th Amendment but by the support of social and development sectors and provincial governments.

IRRC model will get the support and promotion as well.

Future Endeavors

At this time when e-guard is sustainable and is working successfully. It is time to replicate the same modal with the same approach. Different stakeholders, individuals and interested groups should be engaged who are willing to initiate innovative models with new ideas into different areas and cities. These individuals should be self-motivated and passionate enough to do something for the betterment of the humanity. They should work independently but follow the rules designed by AHKMT. In other words, they might be a source to generate some income for AHKMT or they support AHKMT financially.

If 10 such kind of e-guard (companies) would be established by individuals or independent companies that would be great contribution to the climate change and economy of the country. These companies should focus on environment, SWM and climate change. There is also a possibility that a company should focus on a single component or all, it depends on their approach and methodology. They can also focus on either soft or hard component of the project. It might be advocacy or services/consultancy. It also depends on requirements, social and financial needs of the institution community, area and the city.

E-guard is working to improve the lives of common man as well as improving the environment and contributing to the in climate change.

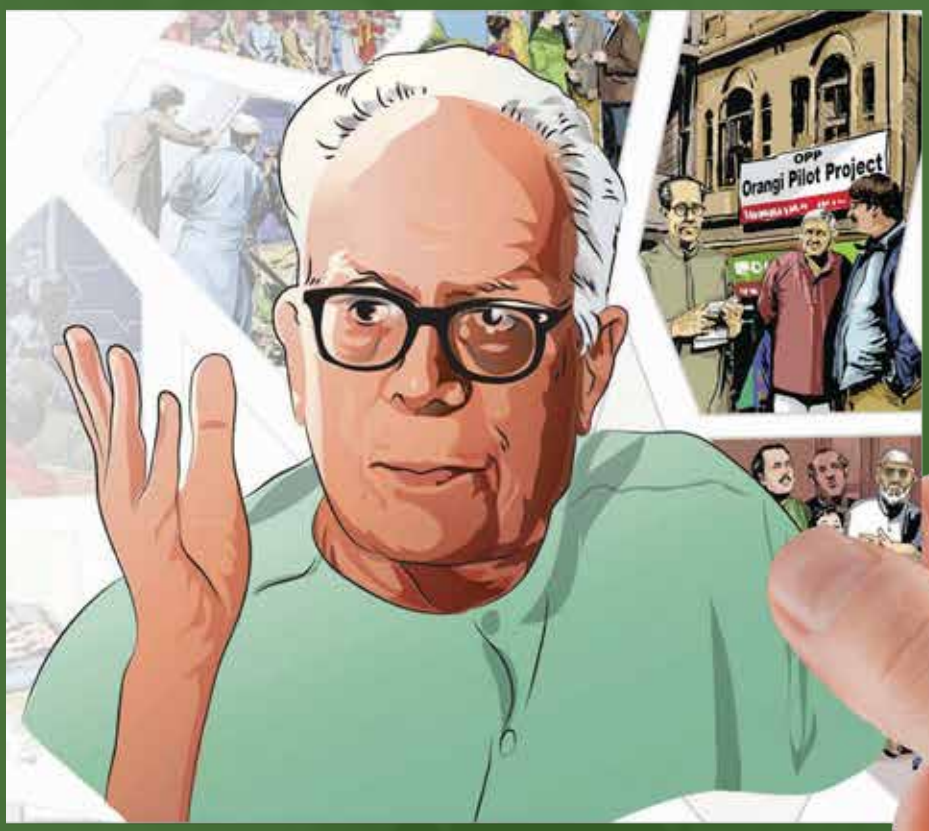
Capacity building

To implement the e-guard projects it is important to build the capacity of staff and workers to adopt the modern and innovative technologies. Different trainings were organized at the national and international level.

E-guard success

- Waste collection, segregation, processing, composting, Recycling, Marketing, Selling of compost.
- Organic products
- Poultry
- Organic farming / kitchen gardening
- Nursery / Plantation
- Bio gas

Dr Akhtar Hameed Khan Memorial Trust
A glance at the journey



Dr. Akhtar Hameed Khan Memorial Trust has been named after renowned social worker Dr. Akhtar Hameed Khan. He introduced the OPP model in Karachi in 1980. OPP was a low cost sanitation model based on component sharing. The model has been replicated in entire Pakistan till date. Dr. Akhtar Hameed passed away on 12 October 1999. After his death some students established a memorial trust in his name. Initially the trust was aimed at organizing memorial references for Dr. Akhtar Hameed. But after a year, it was felt and decided to replicate the low cost sanitation models into Rawalpindi. First office was established in local organization (ADO) based school (Alfalah School) porch. Office was inaugurated by Mr. Fayyaz Baqir Chairman, AHKMT.

With support of Water Aid, a three member team was formulated to replicate the low cost sanitation model into some union councils Rawalpindi. According to the plan roadmap was chalked out and sewerage lines were laid in many areas of the city.

In 2003 the office moved into a single room along one of the main roads of the city. Travelling to this office was quite convenient and everybody could reach it easily.

Dr. Shakeel (Consultant Asia Development Bank) also visited the same office and suggested AHKMT to perform as technical advisor role which AHKMT did for almost 2 years. AHKMT Program Manager was member of ADB Project advisory committee and worked on the suggestions accordingly.

In 2004 Mr. Arif Hasan (Chairman AHKMT) AND Mr. Zamurd Khan inaugurated the new AHKMT office. It was 3 room independent building with a separate kitchen and bath in Gulistan-e- Fatima, Dhoke Hassu. In this building coordinated with Potohar Town as well Rawal Town, sewerage lines were laid in many streets. As per the suggestion of Mr. Arif Hasan, ADB Trunk Line direction was changed. Hundreds of sewerage lines which were laid in Dhoke Kala Khan their final disposal was designed in ADB Trunk Line. As well master plans of many union councils were designed by AHKMT. Water Aid established office in Pakistan and country Head Arif Parvez looked after all the matters. Our work increased gradually. Community demanded to work on solid waste as like sewage.

E-guard was initiated in the same building in Gulistan-e-Fatima Dhoke Hassu. Urban forum on city level were organized. Democratic era was started so MNA and MPA participated in urban forums to make the planning on city level. They also suggested allocating the funds on tehsil and district levels.

Program Manager also contested in tehsil and town level elections. She was elected as member of both assemblies from 2001-2010. Local body member's meetings were particularly organized in the same office.

In 2012 office shifted from municipal jurisdiction to cantonment board jurisdiction in Shahzad Colony. This building comprised of 5 rooms and a huge area. 1 room was allocated to Urban Resource Center. Due to the attitude of the owner and rent increase, the office shifted after one year.

It was decided to make sure to purchase or build own office before 2020.

In 2013 a 5 Marla plot in street 4 Valley Westridge III was purchased. Plot payment was completed in 2 years. Situation was crucial some of the employees left for job or initiated small businesses. Program Manager insisted to shift own set up whether it was in a tent. Board

convinced and allowed shifting in a shelter. A shelter was purchased from earth quake-affected community Muzaffarabad and transported to Rawalpindi. It cost the organization around Rs150,000 which had 2 rooms and a toilet. Shelter was fixed in the plot and vegetables were grown in other vacant area.

Due to non-availability of resources all office related tasks were done by the remaining staff members. After some time part time staff was hired. UNHabitat project was started at the same time. At this stage bigger projects were initiated by the organization. e-Guard was replicated into 6 cities but final disposal was still an issue for each of the city. For this South Asian model, an IRRC was visited in Bangladesh. For this particular study of the model Jammu & Kashmir Cooperative Housing Society staff/authority Mr. Latif Qureshi and Mr. Zaheer Khan also visited IRRC Bangladesh with support of UNESCAP and UNHabitat. At that time e-guard converted into small enterprise firm. In 2014 JKCHS contracted e-guard for provision of services to 500 households. After strenuous efforts IRRC land was allocated by JKCHS. In 2015 UNESCAP started construction which was completed in September 2015.

During the meantime it was realized that construction of AHKMT's own office building is difficult like purchasing the plot and it was felt that it needed more time and investment. A double story building was designed and wait for the resources began. After a comprehensive saving, construction of the office building began. It was completed in 11 months' time period.

In January 2017 AHKMT office construction was inaugurated by Mr. Edwin Samson & Ms. Almas. Office was temporarily shifted to board member Mr. Hamid Ullah's home for 11 months. Until construction was completed, during this time period AHKMT did not have a remarkable project. Only a technical assistance project was carried out with Sakrand Town. There were zero budgets for the office. AHKMT team worked hard day and night. Finally, a UNDP project was started. Meantime construction work of the ground floor was completed in December 2017 and office was shifted in its own building.

In year 2018 funds were spent on the ground floor hall with team of 5 staff members. This year was not good as the entire sector was facing crises one after another. AHKMT

only had a project of UNDP Nawabshah, Sakrand Town. According to project only two-member staff was required. One person was hired from the local community while e-guard head travelled on regular bases.

Sakrand Town project was based on promotion of organic farming where Trust teams underwent rigorous awareness campaigns in the area in the first quarter of 2018 from January till first week of April, met all the stakeholders of the area and apprised them of the benefits of the organic farming through solid waste management. The Trust also enhance the IRRC Sakrand capacity up to 10 tons on daily bases.

In 2019 3-member staff including Program Manager, finance officer and report writer were shifted to the first floor. Both the female staffers started sitting on the first floor without doors and windows. They were covered with curtains and windows were installed after a month. Paint and other tasks were completed in month of June 2019.

Training workshop on Integrated Resource Recovery Fecal Sludge Management and Urban Waste Management

29-30
December 2018 Colombo Ratanpur, Sri Lanka

UNESCAP Regional office Bangkok organized a two-day training and exposure visit of FSM plant & IRRC Ratanpura Sri Lanka on the request of local government (Sakrand Town) and Dr Akhtar Hameed Khan Memorial Trust on December 29, 30 2018. A five-member delegation from Pakistan attended the training including Ms. Sumaira Gul, Mr. Abdul Haq and Mr. Khurram Arsalan and Mr. Hamid Ullah.

The training workshop was conducted on the request by AHKMT and Sakrand Town Committee of UNESCAP to organize a training and visit of FSM model.

Objectives of the training included the Fecal Sludge Management (FSM) model replication in Pakistan. The request was based on the scenario that the IRRC was replicated in Sakrand Town Pakistan on the allocated land for Sewage Treatment Plant (STP) where sewage from entire city comes and is treated. Therefore, the need to evaluate the possibilities of developing FSM model in Pakistan was discussed.

The first day of training began with registration process of the participants. Mr. Ram Tiwari welcomed the participants.

Mr. Maqsood shared the objectives of the training. He shared the working relation with UNESCAP, his objective of working on SWM waste as resource.

He pointed out that two problems one solution was the objective of workshop and solid waste management sustainable development goals. He also shared Kashutian, model with the participants.

Mr. Choulha from SEVANTHA shared the detail agenda of training and exposure visit. After the introduction delegation from Pakistan shared the current status of SWM & FSM in their respective cities. In her presentation, AHKMT representative shared the detail of SWM.

Mr. Abdul Haq and Mr. Khurram Arsalan also elaborated on waste and its management, sewage situation and government's role in different cities of Sindh.

According to the agenda, the second session was concluded by Mr. Ram Tiwari who shared details of ESCAP work on environment and development including urban waste management in different countries of South and Asia pacific. He also explained that after this training and visit, if they received any request of FSM model from local government of Pakistan they would develop the proposal for implementation of FSM model in the same cities where the IRRC is working or has been initiated.

Mr. Abdul Haq explained that they can develop the same model into many cities of Sindh with local government funds. For this purpose, they needed to motivate the municipal committee chairman or Mayor. They needed a detailed orientation or awareness program from UNESCAP.

Mr. Khurram suggested that we need capacity building program in Sindh Province, Pakistan. For this purpose local government training institute already exists in Sindh and it can utilize some curriculum which has been developed on WASH. He suggested that more material for training and capacity building purpose to replicate IRRC and FSM model in Sindh, with collaboration of Local Government, AHKMT and UNESCAP could be developed.

Mr. Ram suggested placing a request on behalf of local government after that they would try to support in replication of the models. It can contribute in improvement of environment and contribute to support circular economy.

Mr. Maqsood started the particular part of the training with power point presentation.

He explained about their SWM plant in Bangladesh which was established in 1995 until 2005 the plant was extended on organic composting.

He also revealed that in 2008 as their organization,

Waste Concern started carbon emission trading.

After the success of carbon trading they moved forward to the Bio gas and Bio diesel in 2009.

In 2012 Waste Concern took new step to deal with Fecal Sludge Management (FSM).

At this time waste concern is dealing with waste and managing it in different ways.

He pointed out that their products comprise organic compost, trading carbon emission, bio gas, bio diesel and utilization of fecal sludge in compost.

He pointed out that in 2016 new initiative was initiated with collaboration of state Government. Scientific land fill site has been developed under the project.

He said that if the focus was given to Fecal Sludge Management then a complete sanitation value chain including capture, storage, transport, treatment and reuse could be attained. The field visit of Ratnapur municipality office and plant of waste water treatment was organized during the training. IRRC and waste water treatment plant was developed at the same place and it was a great exposure for participants.

Dr. Gemini told the participants that organic composting plant was established in 2014 with support of UNESCAP. Recycling facility was funded by CEA.

He said that waste flow data is 53.76 tons per day and its 100% of collection.
The FSM expert said that municipal council provides service to 91% of the house hold and 92% to the commercial area.

Dr. Gemini also revealed that till to date waste collection is done by Municipal Council Ratanpura. Now it is plan to collect the service charges from community.

He said that 2.3 tons' compost is generated per day out of 15 tons of the organic waste. At this time 0.14 tons' recyclables have been segregating it would extend 10 tons till 2022 Municipal council has provided 3 bags for recyclables is a mouth and one bin for organic waste.

For IRRC operation, the FSM expert said waste collection and segregation, the Municipal Council is providing the training to staff. There is no specific Module and curriculum developed for training.

Municipal council is also organizing TOT to the supervisors.

Dr. Gemini said that the staff supervisor has the responsibility to aware the community on household level.

German Embassy's Green-it Campaign

Most people seem oblivious to the fact that we have a serious – but preventable – solid waste problem across the country. Apart from garbage littered across the urban and rural areas scathing the natural beauty of our beloved Pakistan, solid waste is also a cause of water pollution, air pollution and many other diseases related to its improper management. Apart from some urban centers, where a proper system of solid waste collection exists, the picture of rural areas of the country that do not have proper resources to manage this phenomenon is quite poor. However the picture is not all glum, because there is always light at the other end of the tunnel, as was evident when a German Embassy representative Mr. Hanan contacted Dr Akhtar Hameed Khan Memorial Trust way back on 17 April 2019 with an effective strategy to actually keep the federal capital clean and green.

The German Embassy representative apprised Dr Akhtar Hameed Khan Memorial Trust office-bearers about the Embassy plan of launching a waste collection drive for Islamabad and expressed his desire to need AHKMT support. They also mailed and shared that they have seen AHKMT website and found it impressive. They also expressed the desire to launch a joint venture.

During the deliberations it was discussed that most of the commercial and residential areas of the federal capital could become giant garbage depots in near future if the current state of cleanliness prevails. Both sides agreed to the need of raising awareness about cleanliness amongst the public and emphasized that every individual must partake in the drive.

They further highlighted that the garbage collected from homes, around 60% of it is green, 25% of it can be recycled and only 15% has to be disposed of in landfills or through other means.

AHKMT agreed for the venture and suggested gathering the volunteers. AHKMT would train them accordingly.

A planned meeting was held in German Embassy on 18 April 2019. Ms. Sumaira represented AHKMT, Mr. Hanan and Ms. Anna represented German Embassy.

- It was discussed in meeting that briefing would organize in IRRC or German Embassy.
- AHKMT would facilitate in material designing, enlist required tools , train volunteers as well collected waste transportation
- Drive was plan on May 3, 2019 at Aabpara Islamabad near CDA Office

The German Embassy and Dr Akhtar Hameed Khan Memorial Trust team launched a Green-it campaign in the Aabpara Market where students and volunteers were told how to segregate waste before they went on a cleanup and awareness drive in the market by picking up trash and sweeping the floors.

Program Manager Ms. Sumaira Gul shared the rules and regulations of the drive. She was of the view that being the citizens of the country and particularly Islamabad we have a responsibility to drive a positive change in the city and the country.

She lauded their commitment and sense of ownership as commendable. Through this collaboration, we aim to spread awareness about health and hygiene and encourage a sense of responsibility in Pakistanis towards improving hygiene and cleanliness for themselves, their homes and their neighborhoods.

Participants were divided into 4 groups and were assigned a particular location for campaign. 3 colored bags were given to each group White bag for recyclables, blue for organic and pink for recyclables. All the groups were asked to return to the designated place after an hour. Gloves and masks were also provided for collection. It was analyses that huge part of collected waste consisted of recyclable materials.

At the end Dr. Jens Johiseh awarded certificates to the participants.

Sanitation and Water for All (SWA) Retreat Berlin 18-20 June 2019

Sanitation and Water for All (SWA) is a global partnership of over 150 country governments, private sector and civil society organizations, external support agencies, research and learning institutions, and other development partners working together to catalyze political leadership and action, improve accountability, and use scarce resources more effectively. Partners work toward a common vision of sanitation, hygiene and water for all, always and everywhere.

SWA annual retreat was held on Berlin, Germany from 18-20 June 2019. All the steering committee members, private sector and partner organizations representatives were in attendance. TPI, a consultant firm organized the program. Mr. Deve conducted the first session and shared the objectives of retreat and later on conducted

the session on 'Global Partnership changes in ambitions ways of working, Shifting from the MDG's to SDG.' He shared the details of MDGs era to SDG era shifting. The participants shared the purpose & summary function from global level to country level. Strategy road map was shared by Ms Catarina.

The agenda included items such as the new SWA Strategy 2020-2030, the private sector's engagement with the partnership and preparations for the 2020 Finance Ministers' Meeting.

Six groups were formulized for the topic 'SWA national role to global role and responsibilities'.
In the second session the issue to set up context system approaches and new context for partnering were discussed.

The participants stressed the need of feedback from secretariat to improve the overall working.

A strategy development roadmap was discussed and detailed deliberations were put in place to execute the roadmap in letter and spirit.

The current SWA strategy which is grounded in the imperative to "put countries at the centre", strengthening country processes, relying on evidence, and using advocacy to increase political were discussed. Key to SWA's Strategy is the harmonization of efforts and inputs by development partners. Reaching the furthest behind first.

It was stressed that respective organizations should approach the finance ministers in their countries to chalk out solutions to close finance gap for meeting the challenges of sustainable goals.

The involvement of external support agencies was also discussed in detail and their importance was highlighted by the participants.

Engagements with constituencies outside or at the margins of the sector were discussed in detail.

Catarina shared the proof of impact/results framework with those in attendance. The participants deliberated upon the areas impacted by and which impact the WASH, climate change, circular economy. The nature base solutions, water scarcity, pollution and emergencies were also taken up during the retreat. The Link up with non-traditional partners, utilities, regulators, youth and investment fund also came under discussion.

On the second day of the event the group discussions were organized to discuss the strategy and outcomes. The participants put up the query as what SWA was focusing on country, regional or global level. Every group member suggested the focus points. Our group discussed on country level lead by Keley.

The participants were of the view that SWA was solely focusing on their presence at country while instead of focusing on focal person they should also look at alternate of the focal person to reach to the communities in an efficient manner. They stressed the need of intervention with the support of regional, national and global levels. UNICEF representative Kelly said that UNICEF office would support to the country commitments instead of their commitment from UNICEF. These discussions among the participants marked a breakthrough in the global approach to the governance, financing and accountability of the water, sanitation and hygiene sector.

Dr Akhtar Hameed Khan Memorial Trust in its recommendations for SWA national strategy proposed that only those organizations should be made part of the SWA which yearn for non-profit in their endeavors. AHKMT team also recommended that rules should be set in place for Permanent Secretary engagement within the SWA framework for better coordination among stakeholders. It also recommended that an outline should be chalked out for some engagement framework vis a vis Permanent Secretary achievements for the timeframe from 2010-2019. The AHKMT team recommended 3 options for new membership structure of Project Steering Committee.

In the fourth session private sector's achievements and strategy for 2020 came under discussion in detail. Catarina presented the detailed progress report SWA achievement in last 2 years as per the objective of SWA. In detail, she shared last six months' report performance as well as progress of the secretariat of the SWA and also shared plan from June-December 2018 with the members. She offered open forum asking people to put up their queries, comments and suggestions.

The next session was the election of SC chairs & vice chair voting was conducted and Mr. Petiric & vice Chair Ms. Sareen Malik the representative of CSO was elected by votes. The group also held elections for the positions of Steering Committee Chair and Vice-Chair. Patrick Moriarty, CEO of IRC-WASH was elected Chair, and Sareen Malik, Coordinator and Secretary to the Board at African Civil Society Network on Water and Sanitation was elected Vice-Chair. They have been elected for a three-year period. The SC also requested CSOs to decide key principles. The steering committee took note of the CSO admission principles.

SWA Regional Consultation for Asia and Pacific on SWA Global Strategy (2020-30) in Kathmandu, Nepal

A consultation meeting on Sanitation and Water for All (SWA) Global Strategy (2020-30) and discussion on strengthening SWA framework across the regions of South Asia and Pacific was held on September 26-27, 2019 at Annapurna Hotel, Kathmandu, Nepal. More than 32 participants from 16 countries participated in the event to discuss SWA's next 10 years strategic plan.

The main objective of the meeting was to set an ambitious vision for the upcoming 10 years strategic SWA plan besides strengthening the sense of shared identity and developing a common narrative across the partnership for how and why the stakeholders work together. One of the aims of the meeting was to explore ways of opening doors for ongoing meaningful engagement on the strategy development and its implementation.

The two-day event was quite interactive where the draft of Global Strategy was shared with participants and it was thoroughly reviewed by them. During the course of several sessions, the participants deliberated upon the future course of action, as far as SWA strategy for the next 10 years is concerned. After each session, the participants were distributed into different groups where they held detailed discussions on the given topics and provided solution to the queries put up by the participants.

The vision, mission, and purpose of SWA were shared whereas the brief of SWA framework was also shared by secretariat representatives Mr. Sitali.

During the course of discussions the participants were of the view that the SWA work and process from country as well as regional levels could be improved, which would enable the partners to work on it easily. The participants also explored the engagement of country level to global level. All the participants shared the challenges they had been facing regarding WASH in their respective nations. They also discussed the multi-stakeholders process for action on WASH. The participants including government representatives critically discussed the shortfall of WASH also.

On the second day of the event, SWA framework and mutual accountability mechanisms were discussed at length. In the beginning, the details were shared by resource persons and later groups discussions and presentations were shared. The participants discussed how strengthening the regional process focusing around the mutual accountability mechanism and partnership strengthening will help achieve the targets. The participants also evaluated the ways to understand the importance of generating evidence for decision making and sharing of GLASS findings.

In the second half of the day, GLASS Findings were shared by Ms Sofia, the representative of GLASS through online session of Webinar. After listing the findings, the participants put up several queries, which were answered in detail.

Akhtar Hameed Khan Memorial Trust Program Manager Ms Sumaira Gul who was representing Pakistan at the event asked whether Pakistan was part of the 115 countries listed in GLASS data. She further put up the query that if yes then do they have separate data of findings regarding Pakistan. The GLASS representative was happy to share it with her that Pakistan is enlisted in GLASS data, which is available at GLASS website.

In the end, Nepal's Climate Change secretary Mr Sitali concluded the session on happy note. He thanked all the participants who attended the SWA Regional consultation.

MEDIA CONVERGE

چلتی گاڑیوں سے کچرا پھینکنے پر جلد پابندی لگائی جائیگی: امین اسلم

شجر کاری، صفائی مہم بھرپور، پلاسٹک بیگز پر پابندی لگائیں گے، مشیر وزیر اعظم

اسلام آباد (جنرل رپورٹر) وزیر اعظم کے مشیر برائے موسمیاتی تبدیلی ملک امین اسلم کا کہنا ہے کہ اسلام آباد شہر میں چلتی گاڑیوں سے کھلے عام کچرا پھینکنے پر جلد پابندی عائد کی جائے گی، (باقی صفحہ 6 نمبر 19)

پارلیمنٹ کو پلاسٹک فری بنانے کے منصوبے کا آغاز

موسمیاتی تبدیلی کا کس اجلاس میں پلاسٹک بوتل کے بجائے شیشے کے جگ، گلاس کا استعمال

حکومت کو پلاسٹک کے نقصانات پر عوامی آگہی مہم چلانی چاہیے، شیری رحمٰن، قرارداد پیش

اسلام آباد (شبیر حسین) پارلیمنٹ کی عمارت کو پلاسٹک فری بنانے سے متعلق موسمیاتی تبدیلی کمیٹی اور کا کس کی سفارشات پر عملدرآمد کا آغاز ہو چکا۔ سینٹ سیکرٹریٹ نے موسمیاتی تبدیلی (باقی صفحہ 6 نمبر 31)

INTERNATIONAL

THE NEWS

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Waste to energy project inaugurated at Sector G-15

Secretary Climate Change Hassan Nasir Jamy visited Integrated Resource Recovery Centre (IRRC), Sector G-15 Islamabad and inaugurated a 3 tons waste to energy project at the centre, says a press release.

Secretary Climate Change Hassan Nasir Jamy was accompanied by UNHABITAT consultant Javid Ali Khan, Akhter Hamid Khan Memorial Trust (AHKMT) and e-guard CEO Hamid Ullah and Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi, (PMAS-AAUR) Prof. Dr. Muhammad Arshad.

During the visit, the stakeholders also discussed a plan to install an IRRC at the Fruit and Vegetable Market, Islamabad for managing biodegradable waste produced in the market besides discussing feasibility to replicate IRRC model in the different parts of the country to manage waste and make it environment friendly.

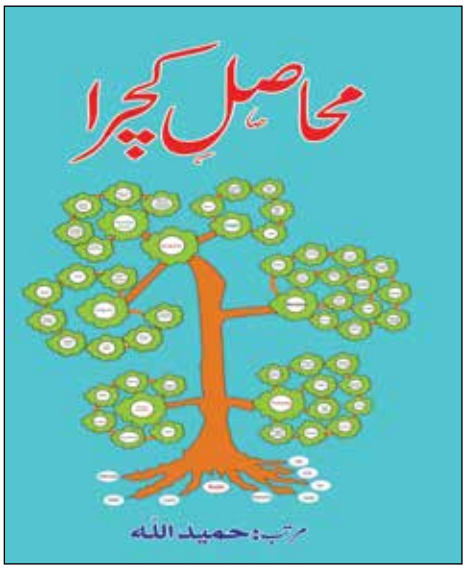
After the visit and discussions with the AHKMT CEO, secretary Climate Change in his remarks said that the visit to IRRC, G-15, was quite fruitful. He lauded the team of dedicated experts from UNHABITAT, AHKMT, e-guard, PMAS-AAUR, for doing a wonderful job on managing solid waste and recycling. He expressed the confidence that this is a replicable model and assured his support to the stakeholders in ensuring the model is not only replicated in Islamabad, but other parts of the country too.

ISLAMABAD: Akhtar Hameed Khan Memorial Trust and e-guard CEO Hamid Ullah briefs Secretary Climate Change Hassan Nasir Jamy about the functioning of the IRRC. UN-HABITAT consultant Javid Ali Khan and PMAS-AAUR representative Prof. Dr. Muhammad Arshad are also present on the occasion.

He asked Islamabad Capital Territory Administration, UNHABITAT, PMAS-AAUR, AHKMT and e-guard representatives to draft a plan for installation of IRRC at Fruit and Vegetable Market, Islamabad, which will be presented in the next meeting. He also sought a feasibility study to install an IRRC at Rawalpindi Waste Management Company's transfer station Liaquat Bagh and present in too in the next meeting.

Earlier in his briefing, AHKMT and e-guard CEO Hamid Ullah explained to the secretary climate change about the history, working and major IRRC activities that can be carried out by the IRRC including collection of segregated waste, processing of waste, utilisation of the resource recovered. He also explained in detail how IRRC can help generate income through service charges levied from the society and sale of green waste or compost and recyclables materials. Hamid Ullah also discussed an initiative taken by him to make roads using plastic waste. He told that at a small scale he has performed a successful experiment using plastic waste, bitumen and aggregate. He also exhibited his experiment during the visit. He explained that by utilizing plastic waste in roads construction our road cost will be reduced and will also help us eliminate plastic waste scattered everywhere in Pakistan. He also revealed that e-guard is going to practically perform plastic road in a housing society in Sector F-17 Islamabad soon at a pilot scale.

He also explained in detail the successful working of this unique model in different parts of the country including Sukrand Town, (Sindh), Jammu and Kashmir Cooperative Housing Society, G-15, Multi Cooperative Housing Society in Sector F-17 and B-17. UNHABITAT Consultant Javid Ali Khan stressed the need of establishing an R&D and Training Centre for capacity building at IRRC in Islamabad. He said that an R&D centre is need of the hour to improve the process of managing solid waste.



DAWN

A solution for organic waste

At the far end of the newly developed Sector G-15 in Islamabad is the Integrated Resource Recovery Centre (IRRC), a waste collection and segregation facility where organic or green waste generated by households in the area is being composted.

The facility was established in 2015 with funding from UN Escap (United Nations Economic and Social Commission for Asia and the Pacific) and UN-Habitat with the aim of reducing the environmental impact of dumping solid waste. However, the centre is self-sufficient, relying entirely on the income from the sale of recyclables and organic compost.

Similar facilities have also been established in the capital's B-17 and F-17 sectors. The IRRC staff collects garbage from houses and markets and brings it to the Centre where it is sorted into organic and inorganic waste. Inorganic waste is further segregated into various types of recyclables and sold to a contractor, while organic waste is composted at IRRC's facility and sold to consumers at Rs 20 per kilo.

The facility in G-15 receives three tons of municipal solid waste every day, which is sorted into recyclable and green waste. Recyclables are sold to a contractor, who pays Rs 70,000 each month for paper, plastic and metal.

Trash collected from Sector G-15 is being sorted into organic and inorganic waste at the IRRC facility in Islamabad. —Photo by author

Bilawal Khan, a manager at the IRRC facility in G-15, says the income from the sale of recyclables and compost from this one sector is enough to cover salaries and operational costs for the centre. "Such centres can be self-sufficient and even make a profit. If this model is emulated in cities and towns across Pakistan, we can significantly reduce the amount of garbage that ends up in landfill sites," he says.

The IRRC facility in Islamabad's Sector G-15 where organic waste is composted and used to produce animal feed. — Photo by author

Links

https://ahkmt.org/our-projects/e-guard/
https://unfccc.int/climate-action/momentum-for-change/activity-database/e-guard
https://www.youtube.com/watch?v=fjzqoHLP-28

VISITOR REMARKS ABOUT IRRC MODEL

If 30 tons' waste is process on daily bases it could be made part of the carbon trading. I will refer interested organizations to AHKMT in future. But before all this results are most important which will be followed by the nomination process.

Mr. Joa, consultant for carbon trading in UNFCC

Amazing integrated approach to make environment clean and healthy

Khurram Arsalan Deputy ProgramCoordinator, WASH, Local GovTt. Sindh

Very informative visit, it is a great initiative and such projects are requirement of every locality. Best wishes

Zoraiz H. Asha, Emergency Services, (Rescue 1122)

Excellent work, need to be expanded in other areas.

Qazi M. Raees, CEO

Excellent work, good model which can be replicated in other cities as well.

Aimal Khan, UNDP-GEF SGP

Impressive and sustainable model for replication in urban areas.

Steve Young

Very impressive facility it works very well and is sustainable.

Capt.(R) Munir Asghar (Defense Dynamics)

Really impressive by the way this project is managed. Wish them all the luck for the wonderful job they are doing.

Qazi Aasim, MD Shah Group of Companies

Very impressive work for environment and it was great to join Clean and Green Pakistan campaign. Great opportunities for SME's.

CH.M Arshad, Vice Chairman, Market Committee, Islamabad

I agree with your program but will visit you again soon

Zafar Iqbal, Secretary Market Committee, Islamabad

Visited IRRC site to understand the project, the purpose of the plant is beneficial and environment friendly

Malik Abid Hussain, DD, (LG &CD)

We are visiting IRRC on the orders of Secretary LG& CD Lahore. We met with GM IRRC and he briefed us in detail about solid waste. It is good achievement for locally. We really appreciate this achievement and are thankful to IRRC.

Saleem Malik CE SPO

It is a great to visit the IRRC site. They are truly making Pakistan beautiful by managing the garbage, recycling it to make it useable for us. Well done!.

Affan Mansoor, Environmental Scientist

Impressive job and the solution to reduce pollution.

Aftab Jahangir, MNA (NA-252)

We are really impressed!

M. Ismail & M. Taimoor

Really doing great job and we are impressed well- done. Keep it up

Obaid Baloch, Local Government

Well done! Great initiative for future

Mukhtiar Hussain

Good initiative for healthy environment and also a source of inspiration

Dr. Bashir Wahla

Its a good initiative and it should be replicated in other parts of the country.

Saim Imran Khan, Town Officer, Sakrand

Its an impressive venture and I see a good future for such project around the country.

Azeem Ullah DS

Good effort to dispose solid waste at micro level this practice should be adopted in all districts of Pakistan

Dr. Shah Nawaz VO (H) Dist. KPK

Good step for people in future

M. Sajid Sub Engineer

Good effort to properly dispose wastage and also a source of earning good job and well done IRRC

Dr. Muhammad Qasim Tanoli, Veterinary officer (VPH)

Good effort & well done

Tehsil Officer, Finance TMA Lal-Qila

A model for waste management which is environment friendly and should be extended.

Wasif Jabbar (EHS Officer)

It's a good initiative to recover the revenue and reduce the waste.

Madiha Ahmed, Assistant Professor

Good effort towards sustainable environment.

District Mingora Operation, GB Waste Management

Excellent system. We will try to work on this system.

Umar Rehman, Soil Conservation Officer

An excellent approach towards sustainable solid waste management.

M. Saifullah Channa DIYA Gothki

Good and well maintained system.

S.M Hamza

Really efficient method to reduce waste and generate revenue.

Dr. M Aslam DHO

An excellent innovation in Pakistan to enhance economy to combat un-empowerment.

Talha Tufail Student (Vehari Punjab)

I am very excited to see this resource center and their efforts to maintain a clean and healthy environment.

M. Azhar Qureshi, Student (Islamabad)

It has been a nice meeting with Mr. Bilawal. We were really happy that someone is doing such a great work. We really appreciate their work.

Hashim Khan, Senior Technical Advisor, GIZ

I am really impressed with the more of IRRC and this successful model shall be replicated to the other parts of the community. A model that can help resolve the waste disposal at different locations.

Abdullah Keerio, Scientific officer, ECRI, Sakrand

IRRC is one of the best model for recycling of organic material especially solid waste management. It is environment friendly for the benefit the community.

Sultan Ahmad Baloch Scientific Officer, CRS, Lasbella University

IRRC is best plant for extra waste material beneficial for human environment factors

Majid, SMECON

It was very pleasing and heartening to see and visit this facility and the way we were briefed by the in-charge officer was managing. Well done and keep it up. Good job!

M. Subhan Bux

IRRC is doing good work for the society. The guidance is appreciation. Stay blessed as always!

Abdul Salam, WASH Specialist, NRSP

IRRC is as complete solution to convert waste into taste through complete tools & technologies stay bless for feature endows

Sarmad H Khan

I found the fertility amazing and there is a need of replication in an aggressive manner

M. Hashim Latif, M. Jehanzeb Khan, Warda Waseem, Urwa Zahra, NUST Students

Excellent initiative more effort by state institutions required to replicate this project countrywide

CDR Ch. Rizwan Riaz, DG Maritime Affairs Planning Commission, Mo PD& R

Indeed healthy and innovative. I was really impressed by multifaceted effects of the plant. We need to replicate it at Government policy level. A green light bearer project

Bilal M. Syed

Great initiative needs to be replicated over the country

Arham Khan

A good effort towards sustainable development. Should be replicated in other parts of the country and lessen the burden on landfills.

Asif Farooqi, ADS

This setup and the story behind its inception is a really inspiration. It's an example of drive to protect the mother nature. This model should be replicated by institutions to play their role in Green Pakistan initiative

NH Asadi Assistant Dir, SQMS

A wonderful idea that should be adopted and the efforts put in by the management is praise worthy. Stay Blessed!

Asif Hussain, Haseena Hussain, Munawar Hussain

Truly inspired by the idea each & everything is recycled in a very effective way and saving our environment from degradation

Deputy Director Agriculture, Khamung

Wonderful visit today and it is really an effective and sustainable model. Such kind of initiatives should be replicated in other areas particularly mountain areas and linked with eco-friendly organic agriculture consumer food security by increasing input (fertilizer) to boost crop yield. Bilawal Khan's hospitality found very much appreciable. Best of Luck AHKMT!

Abrar Ali

Nice effort

Mujahid Ali DMO

Good Efforts

Mujahid Ali DMO

DG MOCC Mr. Irfan Tariq visit

Mr Masood Lohar from UNDP SGP

Tear fund UK visitor

Tear fund visitor

UNFCC Joao Visit

UNFCC Rep Joao visit

World Bank Visitor

World bank Visitor

IRRC Mardan
work start

IRRC FECHS
Under
construction

IRRC
Sakrand

IRRC B-17
MPCHS

IRRC
Islamabad

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Integrated Resource Recovery Center

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