From: [redacted] <[redacted]>
To: Jeffrey Epstein <jeevacation@gmail.com>
Subject: RE: Late to another mtg
Date: Mon, 13 Jun 2011 22:47:06 +0000

Hi there.
Here is some background for you, so you can understand the context:

In 2008 we embarked on a 5 year $10.4 million project to promote sustainable integrated resource recovery in the urban centers of Asia. Through our grantee, UNESCAP and technical partner/sub-grantee Waste Concern, our aim is to support cities and communities in 10 countries across Asia in order to build Integrated Resource Recovery Centers (IRRC). The purpose of our grant is to develop capacity to implement city-wide solid waste management strategies that are decentralized, pro-poor, low carbon and can be **partly** financed through the sale of carbon credits.

What is an IRRC?
IRRC are decentralized neighborhood-based centers that include compost plants, biogas capacity, biodigesters, and recycling facilities that recover valuable resources from waste. Through simple, non-mechanical, low-cost, and labor-intensive technologies we are able to generate revenue and create jobs. IRRCs directly benefit the urban poor, providing wastepickers with better, more stable incomes and safer working conditions. By limiting the amount of waste that goes to landfill or informal dumpsites, IRRC also provide numerous environmental benefits.

IRRCs can be initiated and operated by municipalities, private sector enterprises and civil society organizations – or (most commonly) a combination of all three – through different partnership models. IRRC can be established within small but centrally located neighborhoods, in strategic areas such as markets, or in larger spaces in peri-urban areas. The capacity to process waste can vary from 2 to 20 tons per day, and between 8 to 12 jobs (on site) are created per ton of waste processed.

The main focus of the IRRC is on organic waste, coming mainly from kitchens, markets, restaurants, wholesale markets, and cuttings from plants. Through aerobic composting and biodigestion, organic wastes are processed. Inorganic waste, including paper, packaging materials made of plastic, glass, tin, aluminum, iron and appliances, are collected and sold in bulk.

How does an IRRC work?
Three major activities can be carried out by the IRRC: collection of segregated waste, processing of waste, and selling of resources from the waste. An IRRC needs regular input of waste to operate efficiently and profitably. Most centers provide daily door-to-door collection service from neighborhoods and charge a monthly fee. Others receive waste collected by the local authorities or private companies. Households are trained to separate their waste into organic and inorganic fractions, thus in most cases collected waste is pre-sorted. Some IRRC collect used cooking oil and process it as bio-diesel. Most waste processing occurs a second time at the IRRC. A major portion of the incoming waste is organic and about 70-80% can be composted. The recyclable materials are stored and in some cases processed. Rejects comprising about 10% of incoming waste are sent to the landfill. Compost is sold in bulk to farmers, fertilizer companies and to local authorities who use it for parks and green spaces in their respective cities. IRRCs focus on bulk buyers and buyers (for both organic and inorganic outputs) with their own distribution networks to reduce costs of transportation and packaging.

Systems used to recover resources from waste:

- Compost enrichment: Through compost enrichment the IRRC can produce fertilizer for specific soil and crops by varying NPK and other nutrients added to compost. Unlike chemical fertilizer, organic fertilizer returns organic matter to the soil and reduces costs and pollution from excess chemicals in the soil.
- Biogas: Fish and animal waste cannot be used for compost; however they can be made into biogas using a digester installed within the premises. The biogas produced is used (sold or offered for reduced rate) for cooking and generating electricity.

- Recyclable management: Inorganic waste, including plastics and metals, is sorted, cleaned, compacted and stored before it is sold to bulk buyers of these various materials.
- Biodiesel: Used cooking oil is converted into biodiesel which is a clean-burning fuel that can run in an unmodified diesel engine. It is also an environmentally friendly alternative to higher emission petroleum diesel and can be sold or used in the vehicles operated by the IRRCs or by the city government in their vehicles. This process avoids the disposal of used cooking oil into the city drainage systems.
- Leachate management: A significant amount of wastewater is generated during composting and cleaning of the IRRC. IRRC collect waste water and reuse it to maintain moisture balance and enhance the decomposition process for new compost piles (when mixed with rainwater or piped water). Rainwater harvesting is a part of the structural (roof) design of the IRRC.

Our current sources of revenue:

- User fees
- Carbon finance
- Fertilizer sales
- Biodiesel
- Bulk recyclable sales
- Energy (biogas)

Who benefits from IRRC?

- Local governments save significant costs for waste management (processing, collection, transport, disposal, storage)
- Urban communities benefit from cleaner cities
- Waste pickers and the urban poor are given a steady source of income and improved working conditions
- Peri-urban (and in some cases rural) farmers who gain access to more effective organic fertilizers

What is the SWERF and how does it relate to this project?

The significant resources being generated from each of the IRRC must be accounted for and also recycled as able. The local profits and outputs are kept locally and fed back into the communities and municipal budgets; however the profits from the sale of carbon credits were challenging for us as a foundation because we didn't want to leave them all with the cities and wanted to be able to reinvest some of them. From the carbon markets, we have several UNFCC approved CDM that allow us to capture revenue and we received permission from the oversight commission to bundle the projects because we are using the same (approved) clean development methodologies (CDM) in each of the IRRC. We are in the process of creating a legally-binding instrument that will collect carbon finance in bundles from our various municipal projects, and we initially called it the the SWERF which stands for Solid Waste Equity Revolving Fund. The funds captured in bulk will be recycled to ensure sustainability of the IRRC concept in the developing world. A small portion will be kept (5%) for operational and monitoring expenses but this instrument is a non-profit/pro-poor charitable instrument. We decided to change the name when we filed the paperwork for this entity in the UK and the structure too. Our legal firm is Farrar & Company (in the UK) and Imtiaz Farooq is our representative in Bangladesh.

Here is a sample from 3 of our plants in one city in Bangladesh – related to the carbon markets (we are operational in 10 countries, more than 30 cities with many, many facilities like these):

	Small IRRC	**Medium IRRC**	**Large IRRC**
	Dholpur Plant	**Khatchpur Plant**	**Bulta Plant**
Volume of waste managed	1.2 tons/day	7 tons/day	700 tons/day
Volume of compost produced	100 tons/year	766 tons/year	50,000 tons/year
GHG reduction annually	215 tons CO2e	1,278 tons CO2e	89,000 tons CO2e
Carbon finance gains (annual average)	$3,225/year	$19,770/year	$1.25 million/year

Savings to city SWM budget	$11,442	$68,515	?
Jobs created	9	25	800
Catchment area	4,800 people	20,000 people	?2,500,000
Project cost	$12,228	$65,665	€12 million

I think the carbon markets will only get us so far and currently only account for about 40% of our total income across the 10 countries. Mostly because I can't get the groups to comply with all the M&E and since we bundle projects and sell the futures, we can screw up at one site or the whole thing risks getting credits. Too hard to do each one individually. Fertilizers make a lot of money too but a major pain to deal with Ag ministries – we have to set to joint ventures, etc.

Anyway, I am not looking to take solid waste work to Senegal. Am trying to get things going in Monrovia and Cairo but Africa is just too hard right now.

So I am sorry to overburden you with this but thought you might want to know. It's not about trash or wastepickers it is about generating municipal revenue, and also getting some other things.

If you would like to see the bottom lines from our bank account of the UK-based charitable fund you can read our annual filing when it is put out this year for our UK operations and you can read each one of the project filings per city or review the municipal budgets that grow/shrink around the projects. I'm one person over here and not in the business of generating reports – I'm in the business of making money for cities. You are welcome to visit any of the sites and see how things work.

We are not proposing this type of work in Senegal, rather we would like to see what it would take to prepare to expand coverage area for rich and poor in such a way that we can generate enough user fees to pay for a small bond. I might consider solid waste in the peri-urban areas of Senegal but I just don't think it would work right now. So this is just an FYI and not for your N Africa interests.

Not asking for help or support on this, I know you hate it. The science for CDM is really fun though.

From: Jeffrey Epstein [mailto:jeevacation@gmail.com]
Sent: Monday, June 13, 2011 3:10 PM
To: [redacted]
Subject: Re: Late to another mtg

[redacted] this shows less than two hundred thousand dollars after years.. of operation,, not millions of dollars not even close. you said 173 million dollars made,, please show me the monye

On Mon, Jun 13, 2011 at 5:37 PM, [redacted] <[redacted]> wrote:
This should get you started. Now 3 or so years into this, 10 countries in Asia. Here are 2 facilities. I will send more in a bit

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