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Episode 5: Turning Trash to Treasure: Organic Waste Management | Latin American Perspective with Dr. Sandra Mendez

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Hisham Allam

Hello everyone and welcome to DevelopmentAid Dialogues, our new project exploring the heart of humanitarian aid's most critical topics. Today, we are joined by Dr. Sandra Mendez Fajardo, an expert in solid waste management from Skat Foundation. I'm your host Hisham Alam. Dr. Sandra, good morning and welcome to DevelopmentAid Dialogues.

Sandra Mendez

Good morning and thank you very much for the invitation.

Hisham Allam

It's our pleasure. Dr. Mendez, what are the current state of solid waste management in Latin America, especially when it comes to organic waste?

Sandra Mendez

We have in Latin America an excessive generation of solid waste that is known as rubbish, not as materials like in Switzerland. So, this is a one issue and we have a very low efficiency of systems to manage this waste in cities, municipalities, but especially in rural areas, and we also have very low rates of source separation or segregation of these ways for recycling, this is inexistent in some of our municipalities in Latin America and in general, the main technical solution is still landfilling without separation. And one important point is that organics are more than 50 percent of this waste and this is an issue so we could say that we are starting on the road to recovery and recycling in Latin America.



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Hisham Allam

You have mentioned earlier that over half of the urban waste in Latin America is organic, can you elaborate on the specific challenges this organic matter poses for waste management system in the region?

Sandra Mendez

This is even 60, 70 percent in the South countries in general. It is amazing and the problem is that the composition of this organic matter in landfilling could generate both greenhouse gas emissions, especially methane, that is an issue globally today, and also the discharge of water with high organic loads and other pollutants. That could contaminate also water sources. So, this is one of the important things of course, controlled landfilling would not be necessarily a problem because we could canalize these gases and use them but this is not the normal case in most of our countries and our cities. There is often technically inefficient in these activities. We have technical problems managing this land fillings and we have even more open dumps than landfills. So, this is part of the problem and we have regulations in our countries, different policies, strategies and so on. But we also have very low institutional capacity for monitoring and really implement the regulations in our cities.

Hisham Allam

So, what kind of technical problems you're facing?

Sandra Mendez

It's mainly in the small towns, small communities and rural areas in which we have these landfills with organics and other materials that could be recycled. As I say, the main issue is that the composition in these places is generating greenhouse emission, gas emissions, and polluting water. So, we need to improve both technical infrastructure elements for the systems, but also technical capabilities or skills in the operation of the technologies and I think more habits or good practices in households, for example, to segregate to separate this waste to allow the technologies to work.

Hisham Allam

I'm curious to know what kind of technologies are relevant to waste management? Can you share some examples just to make it understandable for our listeners?

Sandra Mendez

Talking about the organics specifically, we can say we have many of technologies. Some are still expensive for our countries. Biogas, for example, to create gas and use it as energy in the cities, pyrolysis is also a technology it's a thermic technology, but the most common, easy-going technology is the compost of waste.



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Hisham Allam

Let's talk about the drawbacks of landfilling organic waste compared to composting. What are the main disadvantages?

Sandra Mendez

Well, we can lose the opportunity to generate, for example, organic fertilizers. That is also an important topic nowadays in our planet because they are cheaper and less polluting than agrochemicals so we could lose this opportunity and disposing organics with the other waste in landfills increases the size of the land fillings and in turn the cost of their operation and decreases the lifespan of these land fillings and other negative impacts such as bad odors, water pollution could impact the communities, not only the environment, but also communities in the area.

Hisham Allam

Can you share some examples of successful initiatives in Latin America that promote sewer separation and waste reduction.

Sandra Mendez

We have a centralized composting plant and I know, for example, in Costa Rica, the municipality of Pérez Celedón have the biggest composting plant in the country and this is working very well and in Colombia, for example, and into real bowels in Costa Rica. We can also have the centralized with decentralized systems, community system, family systems, and this mixture is done in Medellín in Colombia, they have medium, middle size.

This is a very good example because this is a very small municipality in Costa Rica. They are just starting the centralized concept for composting, but they started like three years ago to implement family composting artifacts and strategies, and this is also a good example.

Hisham Allam

The Green Terrace project in Colombia can you explain the core aspects and the impact of this project on organic waste management in Bogotá?

Sandra Mendez

This project is supported by different donors here in Switzerland and from France also and the idea of this project is to help close the loop between organic waste and organic healthy food in urban communities. So, we offer a different learning by doing spaces in order to demonstrate to communities that it is possible to implement good practices, separate organic waste and make composting as a demonstration point to strengthen their capacities, their motivation.



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Hisham Allam

And what kind of motivation, sorry for interruption, but what kind of motivations do you use to encourage people to get engaged?

Sandra Mendez

Well, when the people see that it is possible to create organic fertilizer from waste, they are curious to learn about that and also to make this at home and this is the goal because the demonstration centralized places are small, so we can't treat a large amount of waste, but we are promoting people families to do this replication at home and mix with versatile gardens at home also to use the fertilizers closing the loop.

Hisham Allam

So, they reuse it for their personal usage or you support them to make kind of a family business?

Sandra Mendez

This is an opportunity that is starting to grow now. Of course, there are also economic opportunities for the people to sell not only the organic fertilizer, but also seeds and food from the gardens. Our priority is talking about the food, the vegetables, our top goal is mainly to improve the nutrition in the families. And of course, we have both possibilities to consume to help or to promote that they consume the products at home in the family, but also, they can also sell.

Hisham Allam

How does Terraza Verde contribute to sustainable urban agriculture and the composting in the region?

Sandra Mendez

On the one side in Colombia, the separation of organic waste is actually officially promoted since 2020, but there are still very few official collection and treatment systems in the city in Bogota, at least. So, in the meantime, we want to help to change habits by achieving the separation in households and by showing that it is possible to transform this waste, into fertilizers and use in vegetable gardens. And in this way, we are also trying to help the local government in the implementation of these municipal waste strategies. Preparing the cultural change that is the hardest thing to do.

Hisham Allam

I'm interested to hear some success stories or notable outcomes from the implementation of Terraza Verde.

Sandra Mendez

We have benefited more than 2,000 people now in this three, four years of the project who now separate organic waste. And some of them are making this treatment.



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And we've observed that children really enjoy learning to plant vegetables and also to process organic waste, and some of them even say, I would like to study agriculture or environmental engineering when I grow. It is a hope because with children, we can change the culture in our community so this is very important for us and we have currently five local partners organizations, including one of the biggest or largest universities in the country. They have Ariana University. So, we also have a student from ecology and industrial engineering in different professions in our project. And this is an impact also.

Hisham Allam

How did you get students engaged in the process

Sandra Mendez

They can develop, social practice as formal coursing at the university. But with our communities, for example, from ecology, they are supporting us with the trainings or monitoring of the technical part of the composting we have, of course, our team of professional experts, but they are supporting us and learning. We have also consolidated a group of local experts of technical issues in composting, and they are supporting us to multiply with more families, especially from this year. And this prove the opportunity to increase the local capacities and this is of course, part of the sustainability in time, too.

Hisham Allam

Of course, it is. Let's talk about challenges and rewards for urban composting. Green Terrace promotes composting in urban settings. What are some of the biggest challenges and rewards of implementing composting programs in densely populated areas?

Sandra Mendez

First of all, the technical knowledge is one big topic because we require technical skills developed locally, and many people who wish to involve in our project and take the trainings are from low or very low-income families, so they have to work the whole week, even on weekends. So, it imposes challenges for our trainings, for example, in the schedules or how many sessions could this person take regularly. Because it is not easy for them. And in addition to knowledge, composting is very time-consuming activity. If the process is not done properly, it can lead or cause others and attract flies and cause different other problems. So, the people should also invest time when they are implementing this both topics are difficult with the dynamics and the situation of these families, but we are working hard to motivate and to find collectively solutions to tackle this. And also, the demonstration sites, as I said, the places are small, so we have limited capacity to receive waste.

And when people are motivated, they wish to deliver waste more and more in our points, but we have limitations. So, this is also a kind of logistic.



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Hisham Allam

But governments are not providing you with points or some space areas to perform these projects?

Sandra Mendez

No, we have points with local organizations mainly church parishes communities or NGOs, but we are working to achieve some partnership with the local government, especially the major office who is in charge of the solid waste management. We had some meetings in which they shared similar problems with the pilots they are developing in the city. So yes, we are starting to create this network with the responsible organizations

Hisham Allam

Dr. Mendez, what are some promising strategies for improving organic waste management in Latin American cities?

Sandra Mendez

I think it is important, and this is not new, but it's important in our context to combine technologies, for example, to combine biogas with composting technologies to optimize the time, for example, of the production of the fertilizer demands also to promote the organic agriculture. That is another big topic to promote the use of organic fertilizers, and it is important to invest not only in infrastructure and technical training, but in environmental education and permanent information campaigns is really key to achieve the goals because we can have the technical part, the plants, composting plants, biogas plants, but if the people are not doing the separation, it is difficult to get the materials.

Hisham Allam

You have mentioned an interesting thing about environmental education. How do you do this?

Sandra Mendez

Well, the trainings are part of that, but we have created collectively guidelines games to use with the people in different activities. This is Important also to say we need the partnerships, for example, with schools with different organizations that could also support the education part and the government locally also have some offices which are in charge of this community, environmental education. Also, radio, TV and social media and all the media could get the people interested.

Hisham Allam

Let's shift to Costa Rica. What led to the decision to launch a composting pilot in Turrialba. And what are the main objectives of this initiative?

Sandra Mendez

We decided to support this initiative, together with a NGO as a person from Costa Rica so we have created the relationship first and then the municipality is designing a centralized system for the whole organic waste management,



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but they wanted to start with a small pilot system and we supported them technically with the design of the selective collection and transporting system and also with the pilot composting plant for ways from restaurants and small fruit shops in the downtown of the Turrialba. And one important point for them and also for us is the inclusion of speakers, because this is also an important issue in our countries, the informality. So, they started to formalize. So, this is an association, the name is AsOPRED, and we trained some people from these waste pickers technically to operate the pilot plant. So, this is also an important line in this project.

Hisham Allam

I would like to ask about some common barriers encountered in promoting sustainable waste management practices. How does the Skat Foundation address them?

Sandra Mendez

Mainly looking for the local empowerment and strengthen capacities of the people. We are experts in knowledge management, so we assure that the processes are documented and these guidelines and materials for environmental education are also part of our strategies. And for us, it's very important to achieve local partnerships, to guarantee in some kind of the sustainability of the actions.

Hisham Allam

From your experience Dr. Mendez, what role do partnerships and the collaborations play in the success of projects like Terraza Verde and the composting pilot in Turrialba?

Sandra Mendez

Yeah, local partnerships are very important because they motivate and involve communities locally, and that would be impossible without them, because from Switzerland, for example, it will be impossible, even if I know the context. And I have some connections, but without the local partners, it would be impossible to motivate the communities and together we managed to increase the technical capacities and awareness of families and local stakeholders. Because the idea is to share also local knowledge, not only the knowledge that we have here. So, in this way, they are very important for us.

Hisham Allam

How do you measure the impact and effectiveness of Skad Foundation's projects in terms of environmental outcomes, community engagement, and long-term sustainability?

Sandra Mendez

We have indicator systems like in every project such as people implementing good practices, for example the amount of organic waste treated and so on and we have trained local managers on how to monitor and report indicators. This is a



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very big task to do sometimes because sometimes they are going to local organizations that are very small and they are not able always to monitor and to report. It is a very interesting phenomena, and the capacity building and empowerment will ensure the sustainability over time. So, this is also our job to promote the capacity building and to create the trainings and the local partnerships.

Hisham Allam

Looking ahead, what are the plans or aspirations for expanding and scaling of these initiatives in Latin America?

Sandra Mendez

The first time we want to share our experience more and more, not only in Colombia, but in other countries of Central America. We can find opportunities to join fundraising. For example, the project that we made is a small pilot, but the municipality is planning to start the amplification of this experience to other actors and complete the system, so this is our aspiration. Yes, to share the knowledge to support multiplication

Hisham Allam

How can individuals or organizations get involved with or collaborate with the Skad Foundation?

Sandra Mendez

I'm pretty sure a lot of organizations are also doing projects like this and implementing different strategies, not only with organic, but in general with waste management in the south so there is an opportunity through sharing this knowledge also with organizations from here, as I say, the joint fundraising could be also an opportunity. And we need, of course, always need donors to grow the activities and the experiences in Colombia, in Costa Rica, and in other projects in South and Central America.

Hisham Allam

Finally, for listeners interested in starting their own composting initiatives, what advice would you give them?

Sandra Mendez

It is important to start with small experiences first to learn because especially with organic waste it could be not a solution, but the problem when it is not well planned. So this is one point. Another point is to focus really on this cultural change that we need. So environmental education activities and information campaigns are very important. As I said, not to invest only in infrastructure, in technologies in technical training, of course, but also in education, in communities and in the users of the systems. And just share also experiences within our countries. Local knowledge is important. And we have successful experiences also there to share, so it is important not to go alone. At the beginning, not go too big and not alone, because there are also different experiences, inspiring experiences like Green Terrace.



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Hisham Allam

Dr. Sandra Mendez Fajardo, thanks for joining us today. This conversation about organic waste management in Latin America has been an eye opening. The challenges, but also the opportunities you mentioned are very interesting. To our listeners, thank you for joining us on this episode of DevelopmentAid Dialogues. We hope you found this discussion as enlightening as we did. Stay tuned for more conversations on pressing topics in humanitarian aid. Until next time, this is your host Hisham Alam signing off. Goodbye.