



→ Análisis de *La Nación* sobre datos del Censo y consultas a municipalidades

# Mitad de municipios desecha esfuerzo de casas que reciclan

## Los residuos nuestros de cada día

En el país hay 4,3 millones de personas que diariamente producen poco más de medio kilo de basura. En un año genera una cantidad suficiente como para cubrir casi todo el territorio del país con 19 toneladas de desechos.



### MITAD DE MUNICIPIOS DESECHA ESFUERZO DE RECICLAR

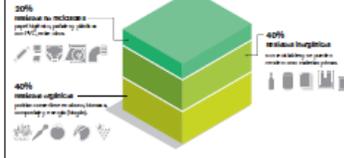
212.000 hogares que clasifican plástico, aluminio y vidrio no tienen ese servicio en 40 cabeceras de provincia son de las más atrasadas.

Al igual que en el resto del mundo, en Venezuela se ha incrementado el consumo de bienes de consumo masivo. Esto ha generado un aumento de los residuos sólidos que se desechan diariamente. Sin embargo, el servicio de recolección y disposición final de estos residuos no es homogéneo en todo el territorio nacional.

En algunas zonas, como en las cabeceras de provincia, se han implementado programas de recolección selectiva de residuos sólidos (RRSS). Sin embargo, en otras zonas, especialmente en zonas rurales y de difícil acceso, no se ha implementado este servicio.

Según datos del Censo de Población y Vivienda 2011, en el país existen 212.000 hogares que clasifican plástico, aluminio y vidrio. Sin embargo, en 40 cabeceras de provincia, no se ofrece este servicio. Estas cabeceras son algunas de las más atrasadas en cuanto a la implementación de programas de RRSS.

## ¿Qué contiene n los desechos que generamos en el país?



## ¿Qué hacen los hogares con los residuos?



### ¿Qué es el reciclaje?

El reciclaje es el proceso de transformar los residuos en nuevos productos. Este proceso ayuda a reducir el consumo de recursos naturales y a disminuir la contaminación del medio ambiente.

### ¿Por qué es importante reciclar?

Reciclar es importante porque ayuda a reducir el consumo de recursos naturales y a disminuir la contaminación del medio ambiente. Además, el reciclaje puede generar empleos y ingresos para las comunidades.

### ¿Cómo se puede reciclar?

Se puede reciclar clasificando los residuos en diferentes categorías: plástico, aluminio, vidrio, papel, textiles, etc. Estos residuos deben ser depositados en contenedores especiales para su recolección y posterior reciclaje.

## Gobiernos locales reciclan el 2% de todos los desechos

Según datos del Censo de Población y Vivienda 2011, solo el 2% de los municipios del país cuenta con programas de recolección selectiva de residuos sólidos.

### ¿Por qué es importante que los gobiernos locales reciclen?

Es importante que los gobiernos locales reciclen porque esto ayuda a reducir el consumo de recursos naturales y a disminuir la contaminación del medio ambiente. Además, el reciclaje puede generar empleos y ingresos para las comunidades.

### ¿Cómo se puede mejorar el reciclaje en los municipios?

Se puede mejorar el reciclaje en los municipios implementando programas de recolección selectiva de residuos sólidos y promoviendo la participación ciudadana en el reciclaje.

## Llegales le roban el reciclaje a alcaldías

Algunos alcaldes permiten que empresas privadas recolecten y reciclen los residuos sólidos, lo que perjudica a las municipalidades que ofrecen este servicio.

### ¿Por qué es importante que los alcaldes no permitan esto?

Es importante que los alcaldes no permitan esto porque esto perjudica a las municipalidades que ofrecen este servicio. Además, esto puede generar conflictos de intereses y afectar la calidad del servicio.

### ¿Cómo se puede evitar esto?

Se puede evitar esto implementando regulaciones que prohíban a las empresas privadas recolectar y reciclar los residuos sólidos en los municipios.

## Cantones centrales en deuda con hogares

Algunos cantones centrales del país no pagan los impuestos necesarios para mantener los servicios de recolección de residuos sólidos.

### ¿Por qué es importante que los cantones paguen los impuestos?

Es importante que los cantones paguen los impuestos porque esto les permite mantener los servicios de recolección de residuos sólidos y mejorar la calidad del servicio.

### ¿Cómo se puede mejorar esto?

Se puede mejorar esto implementando regulaciones que exijan a los cantones pagar los impuestos necesarios para mantener los servicios de recolección de residuos sólidos.

Elaboración de los gráficos: Hassel Fallas. Fuente: Censo de Población y Vivienda 2011, datos de las municipalidades consultadas y estimaciones propias.

Analysis of *La Nación* on Census Data and Municipality Queries

# Half of the Municipalities throw away Home Recycling Efforts

Hassel Fallas — [hassel.fallas@nacion.com](mailto:hassel.fallas@nacion.com)

PER INHABITANT AND TOTAL

## OUR DAILY WASTE

In the country, there are 4.3 million people who daily produce little more than half a kilo of garbage. In a year, the amount generated is enough to cover every square kilometer of the country with 19 tons of waste.

**229 kilos** Produced by each person per year

**80%** of the total waste could be revalued or recycled.

<b>2,700</b> tons in a day  <b>985,000</b> tons in a year		<b>10%</b> is what is currently recycled among companies, municipalities, and others.		
<b>What is the content of the waste generated in the country?</b>				
<b>20% Non-recyclable residue</b> Toilet paper, diapers, and plastic with PVC, among others.		<b>40% Inorganic residue</b> Recyclable and can be sold as raw materials.		
<b>40% Organic waste</b> Could be transformed into fertilizer, biomass, compost, and energy (biogas).				
<b>What do households do with the waste?</b>				
<b>1%</b> throws them to garbage dumps	<b>1%</b> throws them to a plot or river	<b>5%</b> buries them	<b>10%</b> burns them	<b>83%</b> deposit them in a garbage truck (municipal or private)
<b>Notes:</b> Although the numbers were rounded off in order to facilitate their presentation, it should be considered that the garbage production average fluctuates between 0.63 and 0.68 kilos per day per person, as per report 18 of State of the Nation in Sustainable Human Development, 2012. According to the 2011 Census, there are 4,301,712 people in the country. Based on the above, the country's total production of waste would range between 2,710 and 2,925 tons per day.				
<b>SOURCE: 2011 CENSUS, STATE OF THE NATION, AND INTERVIEWS</b>				

- 212,000 homes that classify plastic, aluminum, and glass in 40 counties do not have this service. Four province heads are among the most backward.

The efforts of 212,000 homes to separate plastic, glass, paper, and aluminum from the common trash are being wasted by 40 municipalities.

Those local governments do not offer said differentiated service to houses. They only offer dumpsters or occasional campaigns in parks, so that their residents can bring, by their own means, the items they wish to recycle.

Thus, if a resident of those houses does not bring the bags to those points (whether municipal campaigns or not), they will be tossed into the garbage truck with things that are actually trash.

In 40% of all homes existing in those 40 municipalities, the local government does not provide the collection service of their valuable waste, most of which (26) are located outside the Great Metropolitan Area (GAM, Spanish acronym)

In the best of cases, the materials that were actually recycled will end up in a landfill instead of one of the 270 material recovery facilities which, according to the Ministry of Health, exist in the country.

Every month, municipalities collect approximately 70,000 tons of solid waste; of these, 1,400 tons are recycled.

Cartago, Alajuela, Heredia, and Puntarenas are among the counties that lack the sorting service.

These figures arise from two analyses performed by *La Nación*. The first one based its results on two questions to the homes included in the 2011 Census for the first time: How do you get rid of your waste?, and if they separate plastic, glass, aluminum, and paper from the garbage. These numbers served to create and analyze a database, by county and by district.

For the second one, 81 municipalities were queried and another database was built – using the information delivered by 72 –, with the number of tons of residue received and recycled per month. They were also asked whether they offered recyclable services, besides the traditional garbage collection service, at least once a month, in all or some of their districts. 56% of the 72 interviewed answered no that question.

Among the obstacles, they mentioned low budgets, taxpayers' delay in payment, lack of education in the people, and lack of approval of the plan requested by Health.

**From Paper to Action.** The Law on Comprehensive Waste Management provides, in article 8, that the municipalities are responsible for handling the residue in their county.

Subsection d of that article states that they should “guarantee the provision in their territory of waste collection services, in a selective, accessible, periodic, and efficient manner for all its residents.”

Up to now, almost all of the governments comply with something that the law, in article 8, subsection g, asks to promote: collection campaigns in parks or placement of dumpsters.

“To encourage is not an obligation. What is actually mandatory is a selective collection, that is, at the source (homes),” says Eugenio Androvetto, director of the Department for Human Environment Protection of the Ministry of Health.

Elizabeth Venegas, project manager of Cegesti, a sustainable development consultant company, and Aldemar Arguello, from the Office of the Comptroller General of the Republic, agree that the municipalities should provide such differentiated collection.

“If they do not, any effort performed by the homes to classify residues will be wasted,” argued Arguello.

Edmundo Abellan, engineer from the Municipal Development and Assistance Institute, does not agree.

“Door-to-door collection is not mandatory. The municipality can tell its residents that it will only collect valuable waste at an x point,” says Abellan.

Facing these divergences, *La Nacion* requested an opinion from the Office of the Attorney General. Vivian Burban, journalist of the entity, said that they would not make any statements, since they only answer “queries to the Public Administration.”

The discrepancies on the law reflect the size of a problem of which few want to take charge, said Sergio Gonzalez, of the National Productivity Center Foundation.

## Local Governments recycle 2% of All Waste

Hassel Fallas – [hassel.fallas@nacion.com](mailto:hassel.fallas@nacion.com)

(Image caption) Within the dumping site located in Zarcero (Alfaro Ruiz), there is a space devoted to plastic and glass recovery. | ADRIANA ARAYA.

Every month, more than 70,000 tons of solid waste collected by the municipalities end up in nine landfills or in 30 garbage dumps that still exist in the country.

Municipalities save from that fate some 1,400 tons of plastic, glass, paper, aluminum, and biodegradable waste.

Of that recycled 2%, 1,000 tons are recovered in the homes of the 32 counties of the country where municipalities provide that service, carrying out recycling campaigns as well.

The rest, 400 tons, are obtained by the local governments that just organize occasional campaigns.

These data emanate from an analysis of *La Nacion*, following a consultation on the subject with 81 municipalities. 72 environmental managers or officers in charge answered.

In the country, no exact data exist regarding how much recycling is done by companies and other groups, apart from the municipalities.

However, the State of the Nation program and Cegesti, a sustainable development consultant company, estimate that said percentage fluctuates between 10% and 20%.

**Impact.** The 1,400 tons of recycled material of the municipalities go to 270 recycling centers, community groups, or small businesses, which sell them to companies to be used as raw material.

Though there are no official figures on the number of jobs generated by the activity, the Costa Rica Recycling Network (made up of 133 companies) accounts for 2,500 direct posts. “The country is losing employment opportunities and green businesses,” said Elizabeth Venegas, of Cegesti.

Edmundo Abellan, Engineer of the Municipal Development and Assistance Institute, accepted that 2% is low, “but it is very good.” According to him, the world mean for municipalities is of 3%.

## Central Counties indebted with Homes

[Hassel Fallas](mailto:hassel.fallas@nacion.com) / hassel.fallas@nacion.com

The four central counties of Alajuela, Cartago, Heredia, and Puntarenas stand out among the 40 that do not collect, door-to-door, the recyclable materials separated by the homes from the common garbage.

In those province heads, 4 out of every 10 homes separate plastic, glass, and aluminum from what is actually waste.

In total, 68,000 of the 179,000 families that live in those places have the habit of doing so. But if they wish to recycle those materials, they are forced to go to parks or other sites only when their municipalities schedule occasional collection campaigns.

This information emerged after an analysis of data carried out by *La Nacion*, using variables from the 2011 Census and queries to those municipalities.

“We expect to provide a selective collection service in Alajuela every 15 days, as of 2014,” said Giovanni Sandoval, coordinator of Environmental Services.

In Cartago, Milena Torres, environmental manager, commented that they are only waiting for the Municipal Council to approve the action plan and regulation.

In Heredia, they also promised to provide such service soon.

However, the problem is that the two companies interested in preparing the plan have appealed its award, explained Teresita Granados, solid waste manager of the municipal council.

## Poachers steal the Recycling Business from Municipalities

[Hassel Fallas](mailto:hassel.fallas@nacion.com) / hassel.fallas@nacion.com.

The municipalities of Desamparados, Belen, and Montes de Oca fight against a common enemy: illegal collectors of recyclable materials.

Those groups rise early, literally, so as to go from house to house picking up the bags with paper, aluminum, plastic, and any other material worthy of being sold, before the official trucks get to them.

“They know the routes, schedules; they collect only what is useful. They constitute a problem,” admitted Hector Bermudez, environmental manager of Montes de Oca.

The same happens in Desamparados. Evelyn Hernandez, environmental manager, said that in the Gravilias district, they have identified trucks and scavengers who plunder the bags.

Such practice is illegal. Whoever sells, buys, or stores those stolen materials risk a fine of 100 to 200 base salaries of ₡379,000, according to the Waste Management Law.

“Once the bags are out in the street, they belong to and are the municipality’s responsibility,” warned Edmundo Avellan, Engineer of the Municipal Development and Assistance Institute.

**Informal Market.** Dulcehe Jimenez, environmental manager of Belen, added that this kind of robbery significantly reduces the tons of valuable waste that reach the recycling centers, where there are people who depend on their sale to make their living.

For each kilo of aluminum cans, they get between ₡100 and ₡700. If an illegal collector removes from the homes one ton per month, they will receive between ₡100,000 and ₡700,000. Meanwhile, the average salary of an authorized collector is ₡120,000 per month.

"We ask people to call us and report poachers," claimed Jimenez. In Belen, 600 tons of every kind of residue are collected per month, and only 11 tons (2%) are recovered.

## Coffee promotes Mass Recycling in Dota Homes

[Hassel Fallas / hassel.fallas@nacion.com](mailto:hassel.fallas@nacion.com)

(Image caption) Sonia Madrigal works at the recycling center of Coopedota. From Monday to Friday, she opens bags and separates plastic, cardboard, and aluminum, sent there on Wednesdays by the residents of the Dota county. | DIANA MENDEZ.

Last year, the 800 coffee producers of Coopedota received a half million dollar prize for producing a bean in harmony with the environment.

**MITAD DE MUNICIPIOS DESECHA ESFUERZO**

El año pasado, los 800 productores de café de Coopedota recibieron un premio de medio millón de dólares por producir un grano armonizado con el ambiente.

Cada mes cada productor recibe los pagos que más por cada uno de los 800 quintales que producen en el año.

En Dota, el café es un negocio familiar del que vive, directa o indirectamente, buena parte de los habitantes del cantón.

Nos es uno de los motivos que explica por qué en todo el país de esos casos se separan papel, plástico, vidrio, papel y aluminio de la basura ordinaria.

Román Quiroz, gerente de gestión ambiental de Coopedota, dice: "Solo los zincos y los botes de aluminio se sacan, porque en un 90% de las viviendas no hay un sistema de recolección de residuos."

En contraste, quienes antes lo hacen viven en Cotacachi y La Cruz, Chiapas (90%).

Las familias de un sector de La Maná que analizó, cuando por cantón, los datos que arrojó un estudio del Censo 2011 sobre hábitos de clasificación de residuos en los hogares.

**Esfuerzo conjunto.** "Si el 90% de las familias de Santa María está en Coopedota, si somos carbono neutral, con prácticas sostenibles las empresas y los canales, es lógico que esas también se reflejen en los casos de armonización", comentó Roberto Mesa, gerente de la cooperativa.

Hace cinco años, Coopedota y la municipalidad organizaron un programa de reciclaje en el distrito de Santa María.

En 2011, se creó un sistema para que, una vez a la semana, se reco-

### Café impulsa reciclaje masivo en hogares de Dota



**Recicladores piden precios justos y que se les valore**

**Hassel Fallas**  
hassel.fallas@nacion.com

Marta Gómez, llega a las 6 de la mañana al centro de acopio de Coopedota. Hasta el mediodía, de lunes a viernes, la tarea es igual: abrir las bolsas que mandan los hogares de Dota con material reciclable.

A veces, Gómez abre una bolsa y ya lleva "un colorido".

"Son linternas para encender papel higiénico y cosas así", dice. María José, que también trabaja en el centro, dice: "Hoy me llegó un paquete de zapatos de cuero, lo voy a vender".

El trabajo de lunes a viernes en el vecindario de Zorero. Allí hay un espacio para separar plástico, vidrio y papel.

"Hoy me llegó un paquete de zapatos de cuero, lo voy a vender".

El tema de lo poco que se genera versus el trabajo lo sufre otros recicladores, dijo Hans Chacón, quien tiene un centro de reciclaje en Ibarra.

"Pero que me paguen mejor un kilo de vidrio, a eso, hay que quitarle los arribos de plástico o metal a los botes. Pólvora preciosa, a los precios que me dan los recicladores", reclama.

Marta Gómez, gerente de gestión ambiental de Coopedota, afirma que el trabajo de los recicladores permite a empresas de vidrio usar un 90% de materia reciclada y un 90% de materia virgen en sus botellas.

"Pero Chacón, a la industria del reciclaje le falta apoyo. Nos gustaría que se les valore más", dice. "Nos gustaría que se les valore más", dice. "Nos gustaría que se les valore más", dice.

**USO DE BASES DE DATOS La investigación**

Para este trabajo se crearon y analizaron dos bases de datos. La primera, extraída del Censo 2011 que, por primera vez, preguntó si los hogares separaban plástico, aluminio y vidrio de la basura. La segunda es una base de datos que se hizo llamando y pidiendo datos a las alcaldías; 72 respondieron. Al final, los dos bases se cruzaron para saber número y ubicación de los hogares que separan reciclables, pero la municipalidad no los envió. En [www.nacion.com](http://www.nacion.com) hay una aplicación para que conozca los datos de su cantón.

The international markets paid them \$10 more per each one of the 50,000 quintals produced in 2012.

In Dota, coffee constitutes a family business, from which most of the 1,900 homes of the county live, directly or indirectly.

That is one of the reasons that explains why, in 8 out of 10 of those houses, paper, plastic, glass, and aluminum are separated from the common garbage.

No other county in the country has such high percentages.

Only the people of Zarcerro and Jimenez stand close by, for the same habit is present in 70% of their homes.

In contrast, the ones who recycle less live in Cañas and La Cruz, Guanacaste (a 20%).

The numbers are from a study of *La Nacion* which analyzed, county per county, the data generated by a consultation of the 2011 Census, concerning the habits of waste classification in the homes.

**Joint Effort.** “If 90% of the Santa Maria families are part of Coopedota; if we are carbon-neutral, with sustainable practices in the business and the coffee plantations, it is logical that these reflect in the homes of our members,” commented Roberto Mata, Manager of the cooperative.

Five years ago, Coopedota and the municipality launched a recycling program at the central district of Santa Maria.

In 2011, they spread it out in order to collect, once a week, all valuable waste from the homes of the two other districts.

“We organized a campaign to teach how to recycle in every home. At the beginning, we only recovered one and a half tons,” recalled Leonardo Chacon, mayor.

Now, out of the 10 tons of solid waste collected per week, the municipality recovers, door-to-door, almost 5 tons of plastic or tetra-pak containers, glass, aluminum cans, and cardboard.

More than 60% of those valuable materials go to the Coopedota recycling center, where 15 women, most of them heads of household, engage on their preparation for sale to five companies that use them as raw material.

Those materials generate profits for approximately \$10 million per year, used by Coopedota and the municipality for their environmental programs.

The wages of the recovery women are covered by state programs, such as Empleado and the IMAS (Spanish acronym for Joint Social Welfare Institute).

“The task goes on. We need to spread the collection coverage and raise awareness on the remaining 20% of homes. We are still receiving trash at the garbage dumps that could have been recovered,” expressed Chacon.

The goal of the municipality for the end of this year is to increase the number of recycled tons to 6 per month, in a county where 83% of its territory is protected as national park or forest and biological reserve.

# Recyclers ask for Fair Prices and to be Appreciated

[Hassel Fallas](#) / hassel.fallas@nacion.com

Maria Gomez arrives at the CoopeDota recycling center at six in the morning. Her job is the same until noon, from Monday to Friday: to open the bags with recyclable materials sent by the Dota homes.

Sometimes, Gomez opens a bag and gets badly surprised.

“I am good at finding toilet paper and other rubbish. It pisses me off when they send such things on the recycling day,” she claims.

Jorge Navarro, a recycler from Zarcero, understands her.

He works from Monday to Friday at the Zarcero dumping site, where there is a space to separate plastic, glass, and paper.

“This is tough. Two weeks are needed to gather one ton of plastic,” he recounts.

The subject of how little they earn versus the work it entails is suffered by other recyclers, said Hazel Chacon, owner of a recycling center in Escazu.

“In order to get a better price for a kilo of glass, ₡16, we have to remove the plastic or metal rings from the bottles. We ask for fair prices. We provide the companies with material that minimizes their costs,” she claims.

Mauricio Blandino, Environmental Director at Aliarse, confirms that the work carried out by the collectors allows glass enterprises to use 70% of recycled material and 30% of virgin material, in their formulas.

In Chacon’s opinion, the recycling industry lacks support. “We do not want to be seen as weirdoes,” she said, without mentioning something that *doña* Maria, the recovery woman from Dota, feels free to say: “What is lacking, and plenty, is education.”

USE OF DATABASES

**The Research**

Two databases were created and analyzed for this work. The first one extracted information from the 2011 Census which asked, for the first time, whether the homes separated plastic, aluminum, and glass from the garbage. The second one was developed by calling the municipalities and asking them for information; 72 answered. At the end, the two databases were compared, in order to know the number and location of homes that separate recyclable items, but where the municipality does not collect them. Ninety interviews were carried out. You can find an application to learn the data about your county at [www.nacion.com](http://www.nacion.com).