SERIES INTRODUCTION
In the year 2050 there will 9 billion people. How do we feed them safely, fairly and well? And make sure very mouth is fed.

COMMENTARY
In the kitchens of the future - say the chefs of Peru - food will be cooked amid the flames… of love.

Javier Wong (translation)
Without love you cannot be a chef.

COMMENTARY
And eaten…. with wisdom.

Schiaffino (translation)
In the future people will concentrate on eating better not eating more.

COMMENTARY
With chefs our guiding light.

Elena Santos (translation)
What’s nutritious and what isn’t. It is very important for us to learn that.

COMMENTARY
Peru’s rock star chefs hoping to inspire us all….

Flavio Solorzano (translation)
Peru is like a laboratory; you can apply its discoveries to the rest of the world.

COMMENTARY
They have their own vision of future food.

Iván Kisc (translation)
I think it’s about time to stop and look a little more at the past.

COMMENTARY
But are Peru’s chefs right in claiming the past can show us how to feed the future?

On the coast of the Pacific, Lima the capital of Peru, has become the centre of a revolution in gastronomy. Every year tens of thousands flock to its festival of agricultural biodiversity. Peru’s newly found reputation for cuisine based on fresh ingredients supplied by traditional organic farmers.

Like Emilia.

Emilia Ramirez (translation)
This is yanasara, used to prepare our purple corn drink. This also helps relieve pregnancy inflammation.
COMMENTARY
Traditional local produce challenging chefs to find new ways of cooking. Crops produced by farmers guaranteed a fair living.

These are the ingredients Peru’s radical chefs are using to challenge processed food and high-intensity farming. The guru of this revolution – Gaston Acurio, one of the world’s top dozen chefs.

Future food he says also means future justice.

Gaston Acurio (translation)
It is clear that finally after centuries, there is a different outlook between the diners of the city and the Peruvian farmers.

Peru is the only country in the world where cuisine is no longer about playing frivolous games – insensitive games - and has instead become an authentic social weapon.

COMMENTARY
But could using food and cuisine as a “social weapon” be a risk?

Tim Beach
It will be very dangerous for us to completely go away from high input agriculture until we’ve figured out how to produce enough food with lower input more agro-ecological approaches.

So I think it’s prudent for us to continue both of those kind of systems.

COMMENTARY
Ayacucho, three hundred miles from Lima, and the Andes Mountains. Still haunted by memories of a bloodthirsty Maoist insurgency and police brutality.

Three decades ago, a country tearing itself apart, where you couldn’t dine out at all for fear of terrorist bombs or the secret police.

But today the men in Jeeps are chefs from Lima. Here to meet the farmers and their leader Edilberto. Top Lima chef Ivan Kisic riding out with fellow chefs and farmers who grow his food.

It’s a demonstration of solidarity. A trip back in time to pay homage to Pachamama, Mother Earth.

Iván Kisic (translation)
You share a bit with the farmers and you live the experience of harvesting, making offerings to the land and respect for the Pachamama. And this will result us in revaluing our land, which is what we are aiming for, to revalue what we have now in Peru.

COMMENTARY
They’ve ridden far away from the world of mono crop prairies and factory farms of burgers, soda and sliced bread.

By thanking Mother Earth these chefs and farmers are pledging themselves to a different kind of future food… and future farming.

They believe the secret to a sustainable future lies in the past in the mountains which were once a birthplace of world agriculture.
Edilberto Soto (translation)
Peru has the capacity to solve the problem of food availability in this country. And it’s not just about food because we also have our history and culture, and we have roots here from thousands of years ago. While in Mesopotamia they were domesticating wheat, here in Peru we were doing that with the potato about eight thousand years ago.

COMMENTARY
They’re ceremonially planting seed potatoes in homage to the past. But these farmers also rely on potatoes for food and a living.

Growing potatoes organically, no artificial fertilizers, fungicides and little technology.

What Ivan and the other chefs believe – there should still be a future for old farming methods, traditional crops and small farmers.

Iván Kisic (translation)
For many years we chefs have found it really unfair that the principal producers who make it possible for us to cook and to have food on our tables do not have a decent life.

So we are moving on very quickly, in terms of technology and cuisine, and I think it’s about time to stop for a while and look at the past.

COMMENTARY
But is there really a message for the world in Peru’s ancient farming culture?

Peru’s geography – high mountains and lush jungles – doesn’t particularly favour modern agricultural practices. Small farmers with niche products go with the terrain and have done for millennia.

Reynaldo Trinidad (translation)
Although, geographically Peru is not really suitable for agriculture, ancient Peruvians developed agriculture even in the high peaks in the Andes.

Currently the main producers of these goods are still the small-scale farmers and their rural and native communities.

Maija Peltola
If we think about Peru as a country twenty years ago, we would have thought it was a failed state - and the food revolution that we’re experiencing now has really given the country an opportunity for building peace and for contributing to social inclusion.

And now people living in the most remote places in Peru, they have a sense of self-esteem and self-worth which they never had twenty years ago.

COMMENTARY
Two hundred kilometres north of Lima … the Huaraz Highlands.

Margarita’s both farmer and cook.

Margarita de Tafur (translation)
This dish is made with herbs and many potatoes. I learned to cook this from my mother. Every potato has its different flavor and taste. Only women can keep in their memories the names of the potatoes. In our fair we swap potatoes, and so we can restore these old varieties.
COMMENTARY
Margarita and her neighbours grow old varieties of potato people haven’t even heard of outside the Andes. Ancient food, and ancient agricultural practices – low input organic farming. So why can’t these mountain crops compete better with all the bread and noodles invading Peru?

In Lima there are people who believe they can…. especially at Peru’s International Potato Center. Margarita’s come to meet Doctor Maria Scurrah who’s responsible for preserving Peru’s potato heritage.

Maria Scurrah (translation)
So, let’s have a look at the potatoes you have brought here. Wow, look at these beautiful potatoes!

Margarita de Tafur
This potato is called “Black Bull Horn”,
This potato is called “Puma hand”,
This is “Long Sight”
This is “Beautiful White Potato”
This is “Beautiful but Blue”.

COMMENTARY
Ancient potatoes, a little more romantic than modern grain and wheat hybrids.

Maria Scurrah
Thank you! CIP and humankind thank you, because you have been able to keep these precious potatoes as a food source for the future of us all.

COMMENTARY
Malabar - one of the world’s top restaurants – the creation of Pedro Miguel Schiaffino. He prizes Peru’s ancient potatoes for their taste, variety and nutritional value. Precious old potatoes found not just in museums.

You’ve never seen egg and chips like this.

So what does Pedro make of Margarita’s latest shipment from the Andes?

Schiaffino (translation)
Let’s see what we have here! Look at these beautiful potatoes, wow. Nice.

We’ve been working with native potatoes for several years, about six or seven years before native potatoes were known about, or eaten as they are eaten right now. I first knew of them as gift potatoes, with shapes, colours, flavors and textures; thin skins, thick skins, sweet and bitter.

The future will rely not on the quantity of food we have, instead we are going to go through a process of selection and we are going to pick the more nutritious foods.

COMMENTARY
And potatoes are not alone among those forgotten future foods… from the past.

In an unfashionable Lima suburb – behind an unmarked door – meet the followers of radical chef… Javier Wong. Working from home Javier became one of Lima’s most renowned chefs entirely through – well, word of mouth. Fresh fish and fresh vegetables. No potatoes – few carbohydrates. A brief chat and a dish designed and cooked just for you … with love.
Javier Wong (translation)
Without love you cannot be a chef. A cook has to be a pragmatic dreamer. In the case of gastronomy we have that license.

We do not have antagonisms. That is why we can make dreams come true.

COMMENTARY
Every day, Javier’s off to market. He’s looking not just for fresh fish but for old crops wrongly neglected - future food from the Andes and the Amazon.

Javier Wong (translation)
The Amazon is the future of food supply and the cure of many diseases.

This is the “Pituca” or Chinese potato. This grows in wild forms in the boundaries between the highlands and the jungle. It’s growing massively and its flour is much more nutritious than wheat flour. And the price for a kilo of noodles made of this powder will not be more than ten US cents.

COMMENTARY
In a more fashionable Lima suburb, another unmarked restaurant. Chef Pedro Miguel about to open his new venture “Amaz” devoted to the Amazon. An ancient overlooked food source… for the future.

Pedro Miguel Schiaffino (translation)
The Amazon cuisine, which is shared by nine different countries, is not yet widely spread. So, products from the Amazon are really important, because they can contribute to the food sources for the future.

COMMENTARY
Not everyone in Lima can dine in world class restaurants. A People’s Canteen – one of many in Lima’s poor suburbs. No fancy diners here – these are the homeless and welfare recipients.

But they’re not eating canned soup or junk food. Lima’s top chefs cater for the poor too. The menu here designed by the late Maria Santos, whose daughter Elena’s now in charge.

Elena’s also looking for nutritious new ingredients from old places like - the Amazon and Andes.

Elena Santos (translation)
There are plenty of products we don’t know about. It’s very important the whole country knows what we really have, what’s more nutritious and what is not. It’s very important that we learn about that, no?

COMMENTARY
There’s forgotten nutritious food from the seas too. Five in the morning in Lima’s vast fish market. Supplying restaurants, shops and canteens.

There’s one fish that's we couldn't find – the humble anchoveta. The reason - it's taken straight from the boats – big and small - to be pulped and fed to farmed salmon and chicken - largely abroad. Peru and its fishing industry do well out of this lucrative global trade.

But the anchoveta boats could instead be feeding Peru’s poor - according to this former fishing minister.
Dr Patricia Majluf (translation)
So far, all the attempts to preserve the ecosystems in the world have been mainly focussed on land species, rather than the marine species which I think will be the future world food source.

Anchoveta is probably one of the most nutritious species because of its high fat content. It’s widely available and can be effectively used for direct human consumption.

COMMENTARY
With a bit of flair the humble old anchoveta could be just as fashionable as twenty first century farmed salmon.

And here’s another way the chefs can help. Flavio Solarzano’s off driving thirty miles to the cooking school in the shantyown of Pachacutec. A hundred thousand people living in the desert sands – a fifth of their children anaemic.

Flavio teaches a free monthly masterclass. Other top Lima chefs helping out too. They’re training shantytown kids to be professional chefs – and helping the poor to eat better…. by cooking better. Including with humble anchoveta.

Flavio Solarzano (translation)
So, what we should do are things like this, using it in “causa”, fried, in charquicán, in whatever you want. We should promote the consumption of anchoveta.

COMMENTARY
Here in the desert cooking school Flavio has a lesson for the world – Peru is a country of old and forgotten foods that can feed both Peru…. and other countries with larger and often more fertile lands.

Flavio Solarzano (translation)
Peru is like a laboratory; you can then apply its discoveries to the rest of the world where there is much more land.

In the near future, we hope the consumption of quinoa and other Andean grains will be common, recognized as part of people’s everyday life

COMMENTARY
With Peru’s cornucopia of crops it’s easy to believe opportunities to feed Peruvians fairly and tastily in the future have been overlooked.

Reynaldo Trinidad (translation)
As we’ve already shown through the native potato revolution, our country has enough resources to be self-sustainable and even to give to the world. But these resources, like the farmers, were underestimated for a long time.

COMMENTARY
Peru is a tourist brochure country, its exotic variety of food crops reflecting its varied landscapes. Whether majestic mountains or the Amazon rainforest, people are closely attached to the land.

In Peru’s markets organic produce is cherished - people and nature form a closely-knit ecology…. farm animals like part of the family.

It’s this biodiverse, ancient tapestry Peru’s chefs want to preserve for the future.
Flavio Solorzano (translation)
Imagine changing a small piece of land, where you can have a couple of dozen varieties of potato. Imagine changing the geography of a place where there’s a lot of variety of crops…. all helping each other… into mono-crop farming!

COMMENTARY
Peru’s chefs are changing the global debate over the future of food and farming. The most influential, Gaston Acurio, has been called a politician working as a chef.

Gaston and Javier Wong have been active in politics, fighting moves to legalize genetically modified or GM crops… insisting they’re not needed, at least in Peru.

Javier Wong (translation)
We succeeded in persuading the President not to sign a bill in favour of GM crops. I think that’s a first for chefs.

COMMENTARY
Feeding the world’s soaring population with organic food and old farming ways. Even Peru’s celebrated chefs recognize their dream may not be the only answer.

At Lima’s agricultural university they say we just can’t afford to ignore the new. In his hi-tech lab, top microbiologist Doctor Marcel Gutierrez says the old organic ways are great. But the figures just don’t add up.

Dr. Marcel Gutierrez (translation)
If we were thinking about establishing organic agriculture in the planet, we would actually need two planet Earths. This is the surface level we would need to feed the population in the year Twenty Fifty. And this is not possible. And it is also not possible to deplete our forests. We need to take care of the Amazon. So the best choice is to make land more productive.

COMMENTARY
And the answer –students here learn - science and technology, including genetically modified GM transgenic crops. More bang for our bucks than Nature alone will allow.

Dr. Marcel Gutierrez (translation)
We are not saying that modern biotechnology, that means, genetic engineering is the only way. What we are saying is that without this technology, it is much harder to ensure food sources for this population that is coming up to over nine billion and will require food production to increase by seventy per cent. Without modern biotechnology, this won’t be possible.

COMMENTARY
Students and teachers at the university sell their own produce – sometimes organic. But they’ve no objection to local farms using the technology that keeps so much of the world supplied with food.

Prof. Roberto Ugás (translation)
It is silly, I think, to confront biotech and GM farming with organic and pretend it’s a discussion between white and black. Or to pretend that organic agriculture is a return to the past and poverty, and agriculture with GM is a major advance for the use of modern technology.

COMMENTARY
So will we have to rely on the new to stock the shelves of the future as the world’s population expands to nine billion? Or can we also depend on the old? What do studies from the world’s universities show?
Prof. Tim Beach
Recent studies have shown that lower input, more organic approaches to farming can feed a larger portion of the world’s population than we had previously thought.

There’s open debate about it in the scientific fields. But the reason why it’s important is that currently we feed large populations by high input farming which is not sustainable in the long run because it relies on fossil fuels which will run out and which will become more expensive over time and they are becoming over expensive over time. So this is important for us to build this kind of farming because one cannot produce maybe as high yields as the most high input farming but produce yields that are high enough to feed the world’s populations, especially in local areas and especially in special markets.

COMMENTARY
In Lima, it’s supermarkets, not super chefs who feed most people. So could more of us really have a future with more low-input but high-taste food? Supporters of Lima’s chefs say yes – the real challenge is to use food more intelligently.

Prof. Roberto Ugás (translation)
What’s true is that our planet, with our current agricultural practices, is producing enough and hunger is not a consequence of the lack of food, but a consequence of bad distribution of food. And it’s also a consequence of bad consumption habits in a lot of people.

COMMENTARY
Across town it’s the launch of Peru’s Native Potato Festival. For Peru’s radical chefs another chance to push their message, feeding the future means a fair deal for farmers.

Gaston Acurio (translation)
Clearly we, as chefs, are in a privileged position and it’s our duty to make sure those involved in this chain have the same benefits, opportunities and successes that we have.

COMMENTARY
Local alliance, global implications. The world’s third biggest staple crop – the potato - could feed still more.

Edilberto Soto (translation)
I believe the most important thing for us is to seal this alliance. Seal this alliance based on trust, approach and values, between farmers and chefs. We, Peruvian farmers are able to feed the Peruvian population and the planet.

Maija Peltola (translation)
If the rest of the world really replicates the Peruvian model, and people in the rest of the world start being as interested as Peruvians in their food, and their history, and their gastronomy, this will bring a new opportunity for the smallholder agriculture and the smallholder farmers also.

COMMENTARY
Small farmers feeding the future with sustainable agriculture. But with prices soaring and worldwide malnutrition…. could it be too much of a risk?

Prof. Tim Beach
The future farming I think has a number of trajectories. One of those would be this more holistic attempt and interest by people to be part of a community that is biodiverse, that produces complicated foods, that produces good foods.
But, there will also always be a future for heavy production agriculture. It's hard for us to get away from that because it produces so much food for so many people around the world.

**COMMENTARY**
Chef Gaston Acurio agrees – working together Peru's big and small farmers could be a model for feeding the planet.

A model inspired by patriotism, profit and potatoes.

**Gaston Acurio (translation)**
I believe in integration, in how we can take part in the same process, where we convince ourselves of our responsibilities for the future.

It's in this balance between the small farming, in harmony with the medium and large agriculture, where Peru will become a beautiful world food power.

**COMMENTARY**
Old food the new way – it's the Peruvian dream of future food.
Future Food: Peru - Old or new?

**Film Information: Peru - old or new?**

Behind an unmarked door in a Lima suburb, Javier Wong is planning a revolution in more than just stir-fry cooking. In fact the very future of food – and farming – is being re-imagined here in a city where nobody dined out 20 years ago, where there is no national tradition of gastronomy, and where there is considerable malnutrition. But in the capital of Peru, a city not so long ago wracked by Shining Path terrorist violence, the top chefs – men and women like Gaston Acurio, Javier Wong and Pedro Miguel Schiaffino – believe gastronomy can achieve social justice.

**Series information: Future Food**
[tve.org/series/future-food/](http://tve.org/series/future-food/)

A series of 6 x 25-min films exploring key questions around global food security.

In discussions of feeding the planet, many now argue for a new way of thinking about food technology, food policy and food science. Since the days of the “Green Revolution”, which promised enough food for all but which ultimately reduced crop varieties, created a dependency on fossil fuels and depleted the land, studies have shown that “agroecology” – the application of ecological principles to the production of food – could double food production in the next 10 years sustainably. But can low-yield sustainable farming methods feed 9.5 billion people by 2050? Without GM crops or synthetic fertilizers, can farmers increase food production by 70 percent?

**tve information:**
[tve.org](http://tve.org)

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**Our aim**
To make people think. We inform. We spark debate. We inspire change. And we’ve been inspiring change for more than 30 years

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