Food systems' healthiness, agrobiodiversity and sovereignty: vicious and virtuous cycles

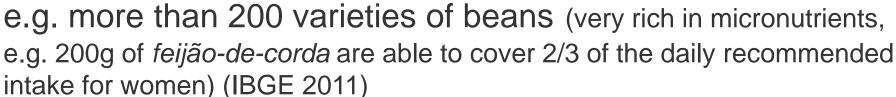
fabio da silva gomes

Food, Nutrition and Cancer Unit National Cancer Institute of Brazil Ministry of Health



Context

Brazil is a 'megadiverse' country



Production is able to supply the whole population

Organic ones are ~20% times richer in iron (Worthington 2001)

UPP displacing beans and other traditional foods (IBGE 2011)

+ UPP x BMI

Rice & Beans (Brazilian traditional meal) x Obesity



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solution problem solution problem

- + Progress artificial measures adding folic acid and other micronutrients to the products that are displacing beans
- + Invest and progress the production of one single GM bean
- + Vanish all the other species
- + Impoverish genetic diversity of beans
- + Modify genetically the only remaining bean, to grow with more folic acid

problem solution problem solution

- + Discover a super healthy highly micronutrient rich beans, make it famous, pay more for them
- + Downscale the production of other beans, and even of other foods
- + Increase the price of other essential foods
- + Export the highly micronutrient rich food
- + Import cheap UPP, and pay more for the beans that used to be produced in a more even and diversified way

Context

Brazil is a 'megadiverse' country

e.g. more than 200 varieties of beans (very rich in micronutrients, e.g. 200g of *feijão-de-corda* are able to cover 2/3 of the daily recommended intake for women) (IBGE 2011)

Production is able to supply the whole population

Organic ones are ~20% times richer in iron (Worthington 2001)

UPP displacing beans and other traditional foods (IBGE 2011)

- + UPP x BMI
- Rice:Beans (Brazilian trad pattern) X Obesity (Sichieri et al. 2003)



Archer Daniels Midland Company
Food Ingredient Catalog
2013-2014



ADM Ingredients for Baking

White whole wheat flour

Spring standard patent

Pan bread flour, spring/winter.

NovaLipid malm products

High protein bread flour, spring/winter.

NovaLipid " salad oils & naturally stable oils

NovaLipid™ enzymatically interesterified oils & st

NovaLipid" coconut oil & palm kernel oil product Partially hydrogenated vegetable oils

All-natural roasted aromatic peanut oils

High gluten, spring

Hard winter flour

Pastry flour, soft

Cake flour, soft

Sorghum flour

Chocolate drops

Cocoa liquors

Cocoa powders

Chocolate coatings

Compound coatings

Chunks/specialty products

FLOURS

OILS

CHOCOLATE

AND

COCOA

PASTRY FILLINGS AND ICINGS

DRY BAKERY MIXES

ADM Ingredients for Beverage Lactic acids. **ACIDULANTS** Citric acids. **EMULSIFIERS** Legithins/PG emulsifier Xanthan gum products TEXTURANTS/ Starches **HUMECTANT/** Clutens STABILIZERS/BINDERS/ Propylene Glycol USP **EXTENDERS** Glycerin USP ADM Ingredients for Candy **BAKING ENHANCERS** Release agents Citric acids Vitamin E and mixed tocopherols HEALTH **ACIDULANTS** Soluble dietary fibers Sodium citrates AND VegeFull** cooked bean ingredients NUTRITION Plant sterois Lactic acids Crystalline fructose Destrose Xanthan gum products. Corn sytups: Molasses product **EMULSIFIERS/** Lecithins SPECIALTY Honey products THICKENERS/ **SWEETENERS** Honey coatings **STABILIZERS** Propylene Glycol USP Malt product High fructose corn syrups COCOA Glycerin USP Sorbital & polyals AND Sugars (liquid and/or granulated) CHOCOLATE Soy proteins VageFull™ cooked bean ingredients Wheat glutens Soluble dietary fibers Wheat protein isolates HEALTH **PROTEINS** Say protein concentrates AND Plant sterols Soy protein isolates NUTRITION Soy flours/grits Vitamin E. Reasted peanut flours

SPECIALTY

SWEETENERS

OILS

COCOA

STARCH

Soy isoflavones

Dectrose

Corn syrups

Maltodestrins

Sorbital & polyals

Cocpa powders

Corn starch

High fructose corn syrups

Sugars (liquid and/or granulated)

NovaLigid" salad oils & naturally stable oils.

Novalligid coconut oil & palm kernel oil groducts

Crystalline fructose

Chocolate coatings

Compound coatings

Pastel coatings

Chocolate drops

Compound drops

Cocoa liquors

Plant sterols

Say proteins

Vitamin E.

Soy isoflavones

Soluble dietary fibers

NovaLipid™ palm products

Sorbital & polyals

Crystalline fructose

Maltodestrins

Destrose

Corn syrups

Honey products

Molasses products

Sugars (liquid and/or granulated)

NovaLipid* salad oils & naturally stable oils

Partially hydrogenated vegetable oils

NovaLigid "coconut oil & palm kernel oil groducts.

Chunks

Cocpas

HEALTH

AND

NUTRITION

DILS

SWEETENERS

problem solution problem solution

- + Reformulate UPP (e.g. remove sugar, sodium, fats), without impeding the advance the share of UPP and snacking way of eating in populations' diet
- + Acknowledge that the increase on the demand for UPP...
- + ...pushing the reduction on beans, manioc, kale, jambo, taperebá, bacuri, sapoti, pupunha, graviola, mango, tucupi, vinagrera are irreversible
- + move agriculture into monotony following BIGSNACK and/or export diversity

OR

- + Preserve beans as a cultural identity, as a daily basis and healthy food (e.g. grow, buy, prepare, share)
- + Progress the preservation and diversification of the native species of beans and culinary traditions (e.g. traditional knowledge)
- + Progress the transition to ways of production that avoids the use of pesticides (e.g. capacity building, economic measures)
- + Reduce the demand for competing products and ways of eating (e.g. regulate promotion, price)

Solution A+B?



Solution A or B? power



opposite way

Products

Policies (+ objectives, goals, vision, mission)

Practices

Coca-Cola 2020 Vision

In 2011, we built strong momentum toward our 2020 goal of doubling our business over the course of this decade.

Source: The Coca-Cola Company. 2011 Annual Review.

McDonald's Mission 'McDonald's brand mission is to be our customers' favourite place and way to eat and drink.'

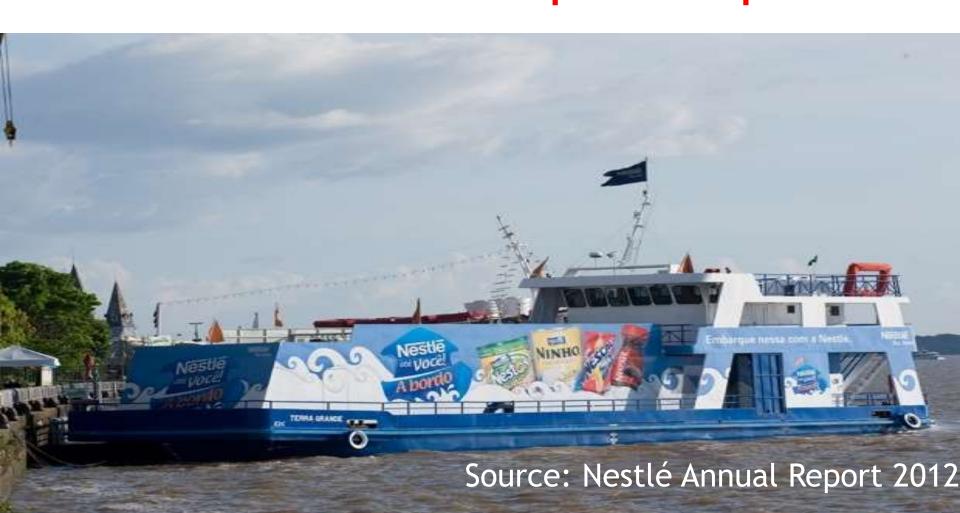
PepsiCo goal

"...making sure our "fun-for-you" products still have a place in consumers' lives.' (Indra Nooyi, PepsiCo CEO)

*So called PepsiCo 'fun-for-you' includes: Pepsi Cola®, Doritos®, Lays®

Nestlé

'We have deep roots in emerging markets, where we have continued to expand our presence.'



DECISION POWER SHIFT Direction/ Strength/ Strategy





National Council of Food and Nutrition Security

1/3 government + 2/3 CSO representatives* Advise the President of the Republic



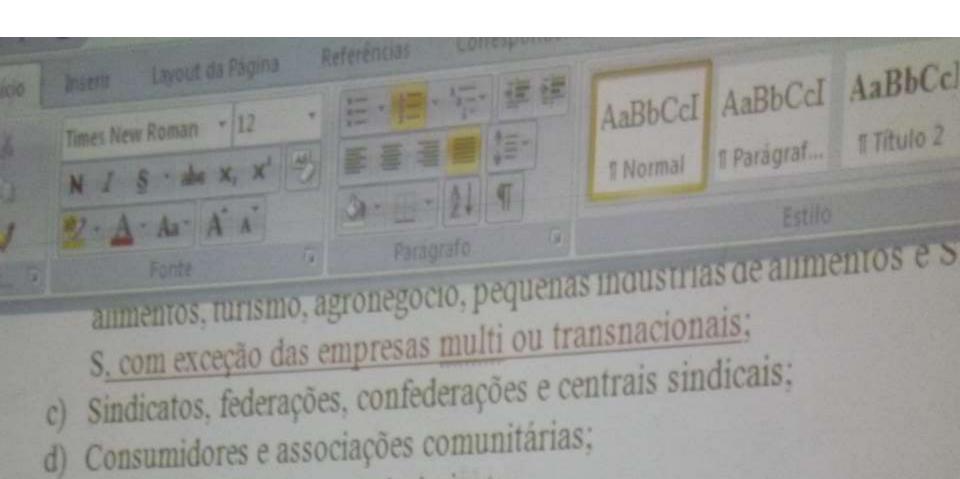
*at least one of the most vulnerable, affected populations (indigenous people, maroons, rural settlements)

Food and Nutrition Security Conference





Food and Nutrition Security Conference



- e) Economia solidária e comércio justo;
- f) Organizações não governamentais (ONGs e Oscips); redes e t

CHANGING THE "P" PPP - PUBLIC-PUBLIC PARTNERSHIP

Call of projects for urban and semi-urban agriculture
Ministry of Social Development (MoSD) has launched a public call,
directed to states and municipalities, for proposals to implement actions
on urban and semi-urban agriculture.

MoSD will provide capacity building opportunities to 1000 food and nutrition security promoters

At least a thousand of food and nutrition security promoters will be formed through a virtual/face-to-face education scheme. The MoSD aims at launching a public call for the development of a Virtual Network.

Brazil supports Bolivia in the creation of supply policies

A team of the Bolivian Government visited the Brazilian National Company of Supply this friday to learn from the experience on supply and production policies. This is part of the cooperation signed in 1996 between Brazil and Bolivia to exchange agricultural knowledge.

Brazilian Food and Nutrition Security Public Policies

Access

- Microcredit:

Bolsa Família USD 10 bi (2012)

- Food and nutrition programmes:

School Meals National Programme (PNAE)

USD 1.5 bi, 45 million children, min 70% fresh, 30%

from FA (priority to rural settlements, indigenous)

Alimentos a grupos poblacionales específicos

Cisterns

Restaurantes populares

Bancos de alimentos

Urban agriculture/Community gardens

Sistema de Vigilancia Alimentaria y Nutricional

(Sisvan)

Distribución de vitamina A (Vitamina A+)

Distribución de hierro (Saúde de Ferro)

Alimentación y nutrición para pueblos indígenas

Educación alimentaria, nutricional y para el consumo

Alimentación Saludable / Promoción de Hábitos

Saludables

Con incentivos fiscales:

Alimentación para los trabajadores (PAT)

Con la reducción de impuestos:

Tax reduction on basic foods' basket

Family agriculture

National Programme for Strengthening Family

Agriculture USD 4.5 bi

Garantia-Safra (garantías en caso de sequía)

Seguro de agricultura familiar

(garantía de 65% del ingreso)

Programa de Adquisición de Alimentos (PAA)

compra de agricultores familiares para abastecer

poblaciones con inseguridad alimentaria

Income generation

Calificación social y profesional

Solidarity and inclusive production

Food Security and Local Development Consortia

Organización productiva de comunidades pobres

Desarrollo de cooperativas de catadores

Microcrédito productivo dirigido

Social mobilisation

Casa de Familias – Centro de Asistencia Social

Movilización social y educación ciudadana

Capacity building of social actors

Brigadas y donaciones

Asociaciones con empresas y otras entidades

Control social – consejos sociales





