

Liberando el Potencial Humano

Impacto económico a través de la nutrición

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Nutrición y Salud Humana Región Andina

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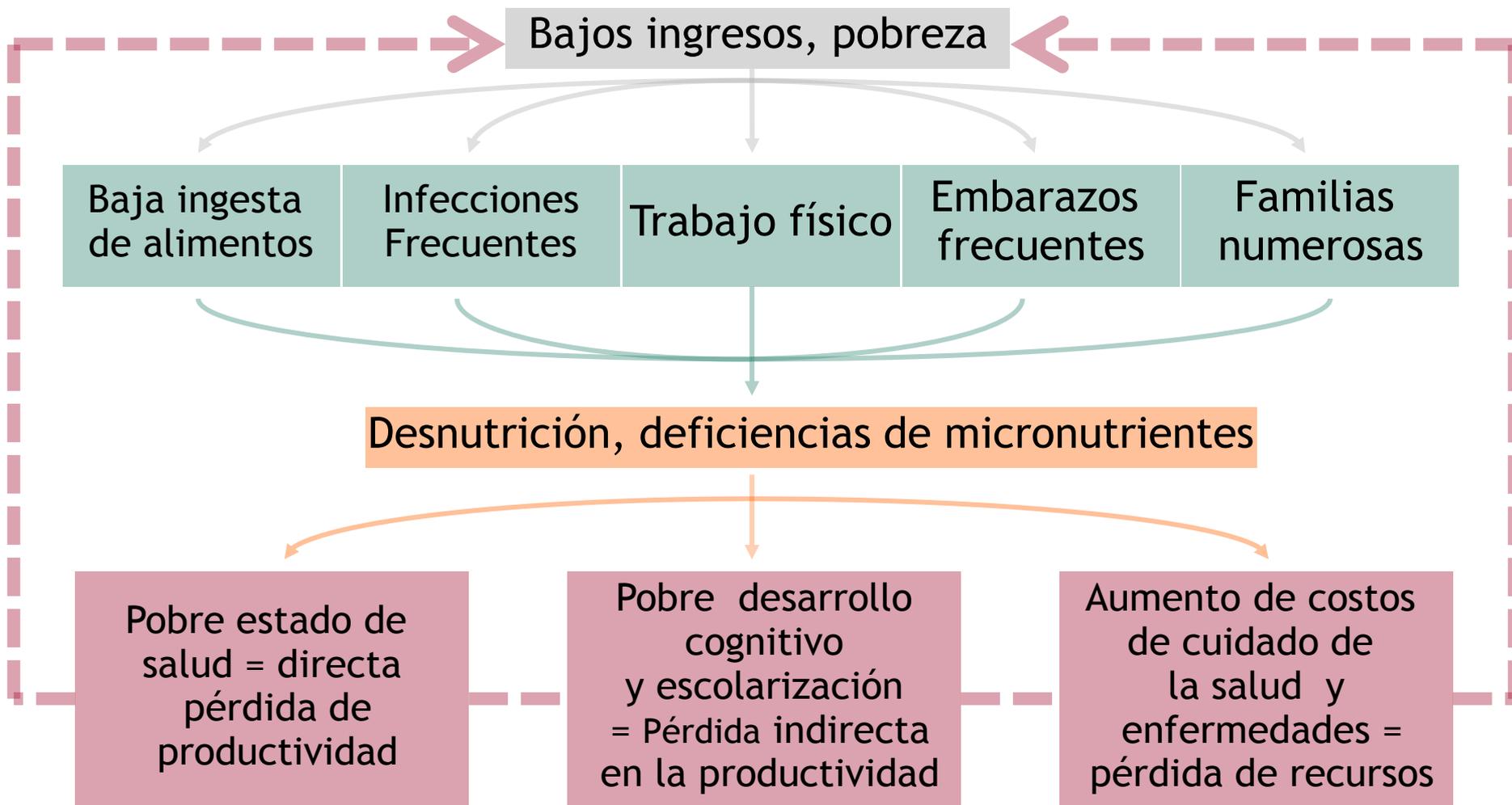
Micronutrient
FORUM

JUNE 2014
ETHIOPIA

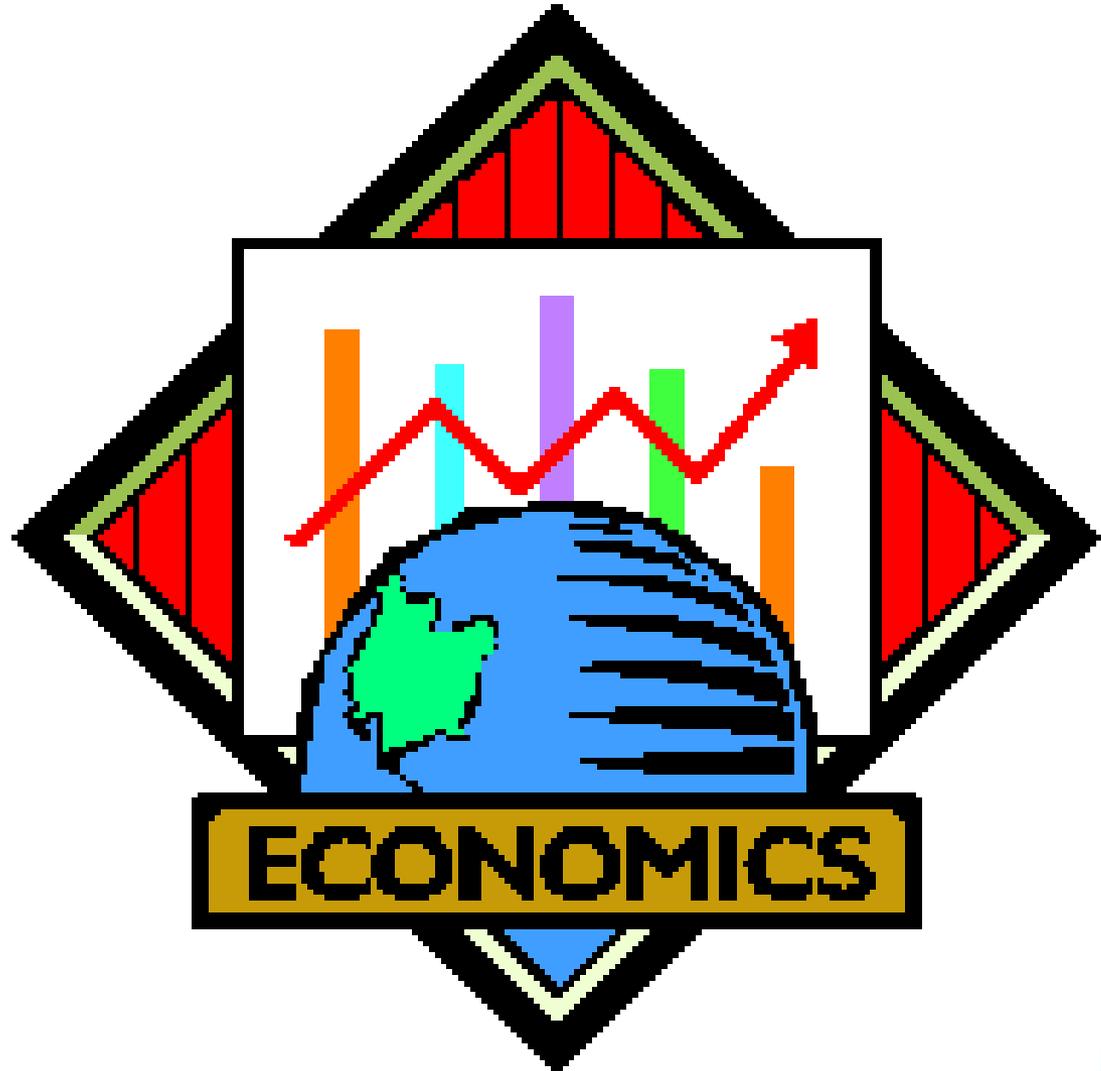
Financiación innovadora y nuevos modelos de negocio



El círculo vicioso de la pobreza

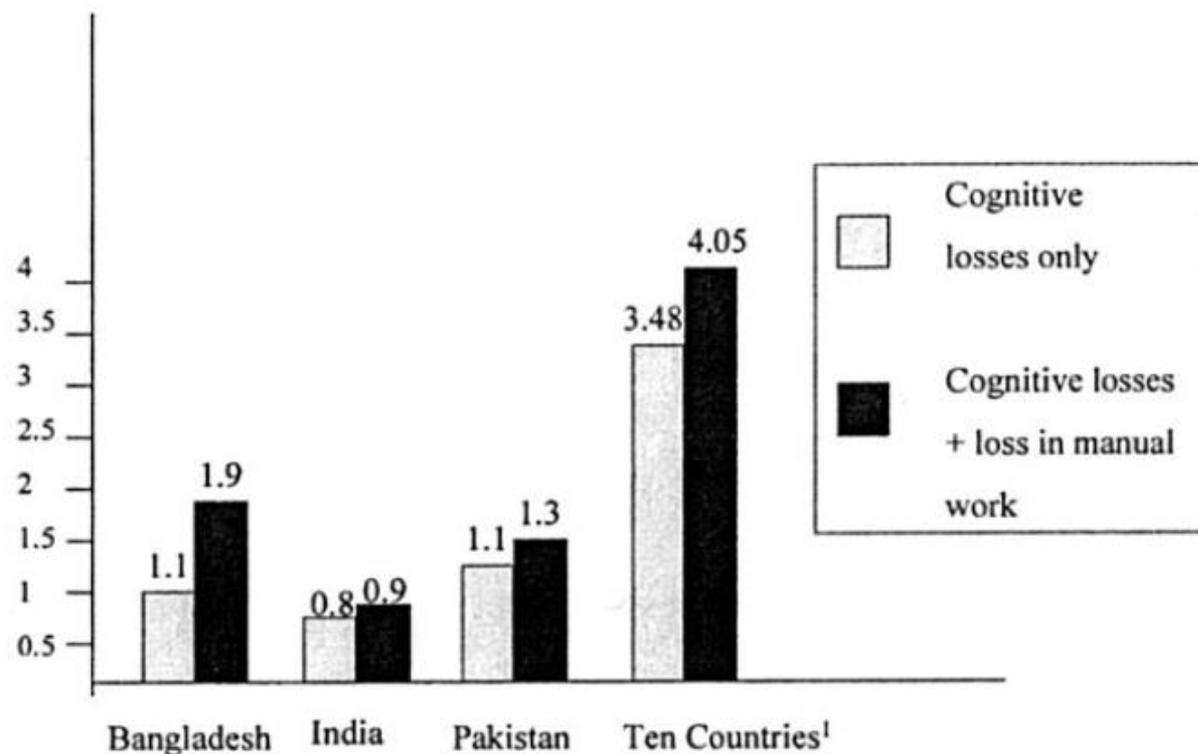


El círculo vicioso de la pobreza



El círculo vicioso de la pobreza

Porcentaje de pérdida estimada del PIB debido a la deficiencia de hierro



Source: Horton 1999, Horton and Ross 2001

¹ Bangladesh, India, Pakistan, Mali, Tanzania, Egypt, Oman, Bolivia, Honduras, Nicaragua

Consenso de Copenhagen

El ejercicio del Consenso de Copenhague comenzó en 2004 y continuó en 2008 y 2012 como una idea simple, pero no probado de **dar prioridad a las oportunidades globales de los mayores problemas del mundo y sus soluciones.**

Imagínese que usted tiene \$ 75 mil millones para donar a causas que valen la pena. ¿Qué haría usted, y dónde debemos empezar?

Consenso de Copenhague 2004, 2008, 2012

	2004
1	Control HIV/AIDS
2	Proporcionar micronutrientes
3	Liberalización del comercio
4	Control de la Malaria
5	Nuevas tecnologías agrícolas para aumentar los rendimientos
6	Tecnologías del agua en pequeña escala para los medios de vida
7	Abastecimiento de agua y saneamiento, gestionado por la comunidad
8	Rx en la productividad del agua en la producción de alimentos
9	Reducción de costo de iniciar nuevos negocios
10	Reducción de las barreras a la migración para trabajadores calificados



Consenso de Copenhagen 2012

Mejores inversiones a largo plazo para luchar contra el hambre y la desnutrición:

1. Aceleración de mejoras de rendimiento agrícola

2. Innovaciones de mercado que reducen el hambre

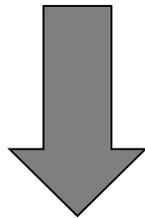
3. Intervenciones conectadas que reducen la malnutrición de micronutrientes y reducir la prevalencia del retraso del crecimiento



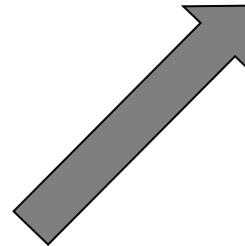
1. Acelerar las mejoras de rendimiento agrícola

- Necesitamos 2100kCal / persona / día
- Producimos 2796kCal / persona / día

↑ La producción de alimentos
(Investigación de los
rendimientos y la tolerancia)



↓ Precios de los alimentos y ↑
asequibilidad
Buffer contra el cambio climático



Para el año 2050:
- El aceite de colza 68% más barato
- Arroz 25% más barato
- Hambre 63% menos

ROI 16 : 1



2. Innovaciones de mercado que reducen el hambre

- 80% de los hambrientos en el mundo viven en las zonas rurales
- 50% de los cuales son pequeños agricultores

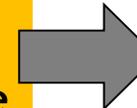
Enfoque dual para mejorar las condiciones económicas:

- Proporcionar información sobre el mercado a través de los teléfonos celulares



ROI 8.4 : 1

- Reducir las barreras para el acceso a los fertilizantes
 - 5 países y 4 empresas controlan > 50% la producción de fertilizantes del mundo
 - Invertir en la capacidad de producción local de fertilizantes



ROI 6.5 : 1



3. Intervenciones para combatir el hambre y mejorar la educación

1. Suministro de Micronutrientes
2. Alimentos complementarios
3. Tratamiento para los parásitos/ diarrea
4. Programas de Cambio de comportamiento



Salud, educación y productividad



Desnutrición crónica en países en desarrollo

ROI 30 : 1



Smart Development Goals

To get the biggest bang for every buck, paint a bull's eye on 19 specific targets

Finn Kyrdland, Bjorn Lomborg,
Tom Schelling and Nancy Stokey

By September, the world's 190 governments will meet in New York and agree on a set of ambitious, global targets for 2030. Over the next 15 years these targets will direct the \$2.5 trillion to be spent on development assistance, as well as countless trillions in national budgets.

Based on peer-reviewed analyses from 82 of the world's top economists and 44 sector experts organised by the Copenhagen Consensus, three of us – Finn, Tom and Nancy – have prioritised more than a hundred of the proposed targets in terms of their value-for-money.

The natural political inclination is to promise all good things to everyone, and the UN is currently poised to pick 100 well-intentioned targets. The analyses of the experts suggest that some of the targets are barely worthwhile, producing only a little more than \$1 in social benefits per dollar spent, while others produce much

THESE 19 TARGETS OFFER MORE THAN Rs 15 BACK ON EVERY RUPEE INVESTED

PEOPLE

- > Lower chronic child malnutrition by 40%
- > Halve malaria infection
- > Reduce tuberculosis deaths by 90%
- > Avoid 1.1 million HIV infections through circumcision
- > Cut early death from chronic diseases by 1/3
- > Reduce newborn mortality by 70%
- > Increase immunisation to reduce child deaths by 25%
- > Make family planning available to everyone
- > Eliminate violence against women and girls

PLANET

- > Phase out fossil fuel subsidies
- > Halve coral reef loss
- > Tax pollution damage from energy
- > Cut indoor air pollution by 20%

PROSPERITY

- > Reduce trade restrictions (full Doha)
- > Improve gender equality in ownership, business and politics
- > Boost agricultural yield growth by 40%
- > Increase girls' education by 2 years
- > Achieve universal primary education in sub-Saharan Africa
- > Triple preschool in sub-Saharan Africa

world is poverty, which still afflicts billions of people. Poverty is the ultimate source of many other problems. The immediate result is high rates of infant mortality, as well as poor cognitive skills and reduced productive capacity among surviving children. The ultimate result is a cycle of poverty.

Better nutrition and better schools will help alleviate poverty, but there is another target that promises to be even more effective: lowering barriers to international trade. The historical evidence on this point is compelling. In China, South Korea, India, Chile and many other countries, reducing trade restrictions has lifted incomes and reduced poverty, and triggered decades of rapid income growth.

Poverty reduction was the first item in UN's list of Millennium Development Goals, and the numerical target was achieved. Why? Income growth in China was a big part of the story. And how did the Chinese achieve that remarkable feat? Most evidence suggests that international trade was a key ingredient. Trade

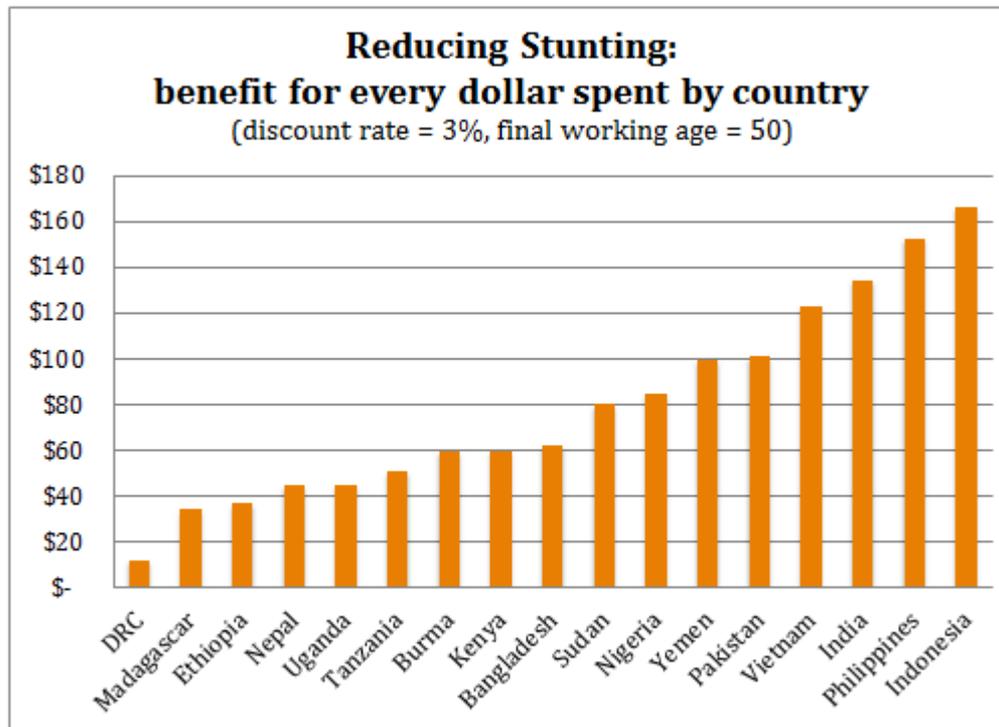
Mejor destino para la nutrición?

Para el año 2030, reducir en un 40% el número de niños con retraso del crecimiento, que retornarán \$ 45 dólares por cada dólar gastado.

“ We asked two of the world’s leading experts on nutrition and economics to document the benefits, and this week we published their findings. Professor Susan Horton from University of Waterloo and professor John Hoddinott from Cornell have written a cost-benefit analysis of nutrition interventions aimed at reducing stunting; they conclude every dollar spent on nutrition in the first 1,000 days of a child’s life can give a saving of an average \$45 (£28) and in some cases as much as \$166. “The returns to investments in nutrition have high benefit cost ratios, and that this should be a top development priority.”

ROI 45 : 1

Concentrandose en la reducción del retraso del crecimiento



Horton and Hoddinott (2013), based on Hoddinott (2013)

Concentrándose en la reducción del retraso del crecimiento ?

Ventajas de una meta en el retraso del crecimiento

- Importancia de los **primeros 1000 días**
- El crecimiento también depende del **estado de salud, el saneamiento y la infección reducida.**
- El crecimiento también está afectado por la **calidad de la atención.** Nutrición y cuidado de la salud proporcionan mejores resultados
- El crecimiento es un buen indicador de **la calidad del ambiente en los primeros años de vida;**
- El crecimiento es fácilmente **medible** (aunque depende razonablemente buenos datos de edad)
- La altura del niño a los dos años de edad es un buen predictor de la estatura adulta lograda.
- **La estatura de un adulto se asocia con sus ingresos:** de una encuesta de 8 países de altos ingresos (Gao y Smyth, 2010) la mediana de aumento de los ingresos por hora por 1 cm de altura adicional fue de 0,55%; y de una encuesta de 8 países de bajos y medianos ingresos, la media fue de 4,5% (Horton y Steckel, 2013).
- **La estatura de un adulto también rastrea el desarrollo económico bastante bien** (Figuras 1, 2 y 3 de Horton y Steckel, 2013, que muestran que la altura rastrea el "despegue" económico para una serie de países).

Efecto del aumento de estatura en los ingresos, países en vía de desarrollo

Reference	Country	Methods used	Results	% change in wages Per cm height ↑, men
Gao & Smyth (2010)	12 Chinese cities, 2005, individuals 16+	IV: urban data	↑ height 1 cm for men increases earnings 4.5%; same for women increases earnings 7.3%	4.5%
Haddad & Bouis (1991)	Philippines, agricultural work	IV: rural data	Elasticity wages with height is 1.38	0.86%
Schultz 2002	Brazil, 1989 National survey	IV: national data		8-10%
Schultz 2002	Ghana 1987-9 Age 20-54	IV: national data		8-10%
Schultz 2003	Cote d'Ivoire 1985-7	IV: national data		11%
Thomas & Strauss 1997	Brazil 1989 National survey	IV: national data	1% increase in male height associated with 2.4% increase in wages	1.4%
Studies involving height & schooling				
Alderman, Hoogheven & Rossi (2008)	Tanzania, children born 1984-94	Longitudinal data, IV using short-run drought shocks: rural data	↑ height from 80% to 95% of median, leads to ↑ schooling 0.93 years and annual salary 8%; ↑ height from 85% to 100% of median leads to ↑ schooling 0.85 years, and annual salary 7%: heights measured in children	Na (only child heights used)
Alderman, Hoddinott & Kinsey (2006)	Zimbabwe, children born 1977-87	Longitudinal data, IV using major drought, civil war shocks: rural data	Drought led to height/age 1.25 SD lower (3.4cm shorter) at adolescence: associated with 0.85 less years school achievement, and 14% lower lifetime earnings	4.12%
Longitudinal intervention studies				
Hoddinott et al, 2008	Guatemala, children born 1969-77	Longitudinal study following up controlled intervention in rural area	Intervention below age 3 resulted in 2.9cm ↑ in height, 46% ↑ in hourly wage for adult men; effect not significant for women	15.8%

↑ Estatura
 =
 ↑ Potential de > Ingresos

Guatemala

Hoddinott et al (2008) estudio Longitudinal

- 1969: los niños de preescolar recibieron una dieta más nutritiva en comparación con el grupo control (suplementos, desparasitación, una mejor calidad de la dieta).
- Seguimiento luego de 35 años.
- Resultados del grupo de intervención

- Crecimiento adecuado a los 3 años
- Menos ausentismo escolar
- Mejores habilidades cognitivas como adultos
- Ingresos más altos como adultos

Círculo virtuoso de desarrollo

Una mejor nutrición en los primeros 1,000 días tiene un argumento económico abrumador.

Intervenciones multicentricas

Prevention of Stunting in Latin America



Maternal health and nutrition

- > 20% of all stunting is the result of poor growth in the womb
- > Interventions to improve maternal nutritional status need to target pre-conception

12% of infants are born small for gestational age



Infant and young child feeding

- > Exclusive breastfeeding until six months is the best start for an infant
- > After six months of age children who receive continued breastfeeding to at least two years of age together with safe and appropriate complementary food grow significantly taller than those with the infrequent unvaried diets.

42% of breastfed children aged 6–23 months receive a minimal acceptable diet.¹

Only 36% of infants are exclusively breastfed until six months of age



Water sanitation and hygiene (WASH)

- > Increasing access to improved water, sanitation, and healthcare facilities is essential for disease prevention and treatment
- > Children with access to improved WASH facilities have greater height gains compared with children who have no access

89% of people use improved drinking water sources and 74% use improved sanitation facilities

47% of children under five years with diarrhea received oral rehydration and continued feeding

Optimal health, growth, and development

- > A non-stunted child has the best opportunity to achieve their optimal physical and mental capacity, increasing their ability to learn and their future earning capacity.
- > A non-stunted woman is more likely to give birth to an infant with a healthy birth weight, who is in turn less likely to be stunted, helping to break the intergenerational cycle of malnutrition.²

47% of children in the region are stunted. The lowest prevalence is 6% in Costa Rica, the highest 48% in Guatemala



Source: Sight and Life

La calidad es esencial !

Nutrición efectiva es asequible.
Nutrición ineficaz es cara.

The background consists of several overlapping, wavy horizontal bands in various shades of orange and yellow, creating a sense of movement and depth. The colors range from bright yellow to deep orange and red-orange.

BRIGHT SCIENCE. BRIGHTER LIVING.™

Back up slide - nutrición en términos económicos

Economic impact

- Adults who were malnourished as children earn at least 20% less on average than those who weren't. ⁶
- Countries may lose two to three percent of their Gross Domestic Product (GDP) as a result of iron, iodine, and zinc deficiencies. ⁷
- Estimates show annual investments of US\$ 347 million to provide micronutrients to 80 percent of the world's malnourished would yield US\$ 5 billion in improved earnings and healthcare spending. ⁷
- It is calculated that each dollar spent on nutrition delivers between US\$ 8 and US\$138 of benefits. ⁸

References

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³ UN Inter-agency Group for Child Mortality Estimation (2011) Levels & Trends in Child Mortality: Report 2011, New York: UNICEF.

⁴ M de Onis, M Blossne and E Borghi (2011) 'Prevalence of stunting among pre-school children 1990-2020', Growth Assessment and Surveillance Unit, Public Health Nutrition 2011, Jul 14:1-7.

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⁸ J Hoddinott, M Rosegrant and M Torero (2012) 'Challenge Paper: Hunger and Malnutrition' Copenhagen Consensus <http://www.copenhagenconsensus.com/Default.aspx?ID=1633>

⁹ World Health Organization (2001) Iron Deficiency Anaemia: Assessment, prevention, and control – A guide for programme managers.

¹⁰ Y Balarajan, et al, 'Anaemia in low-income and middle-income countries', The Lancet, 378: 2123-35, August 2, 2011