

Pathway from social experience to health, health behavior & nutrition

1

BJ. ISTITI KANDARINA

Definition of health

2

WHO

“a state of complete physical, mental and social wellbeing and not merely the absence of disease, injury or infirmity”⁴.

or

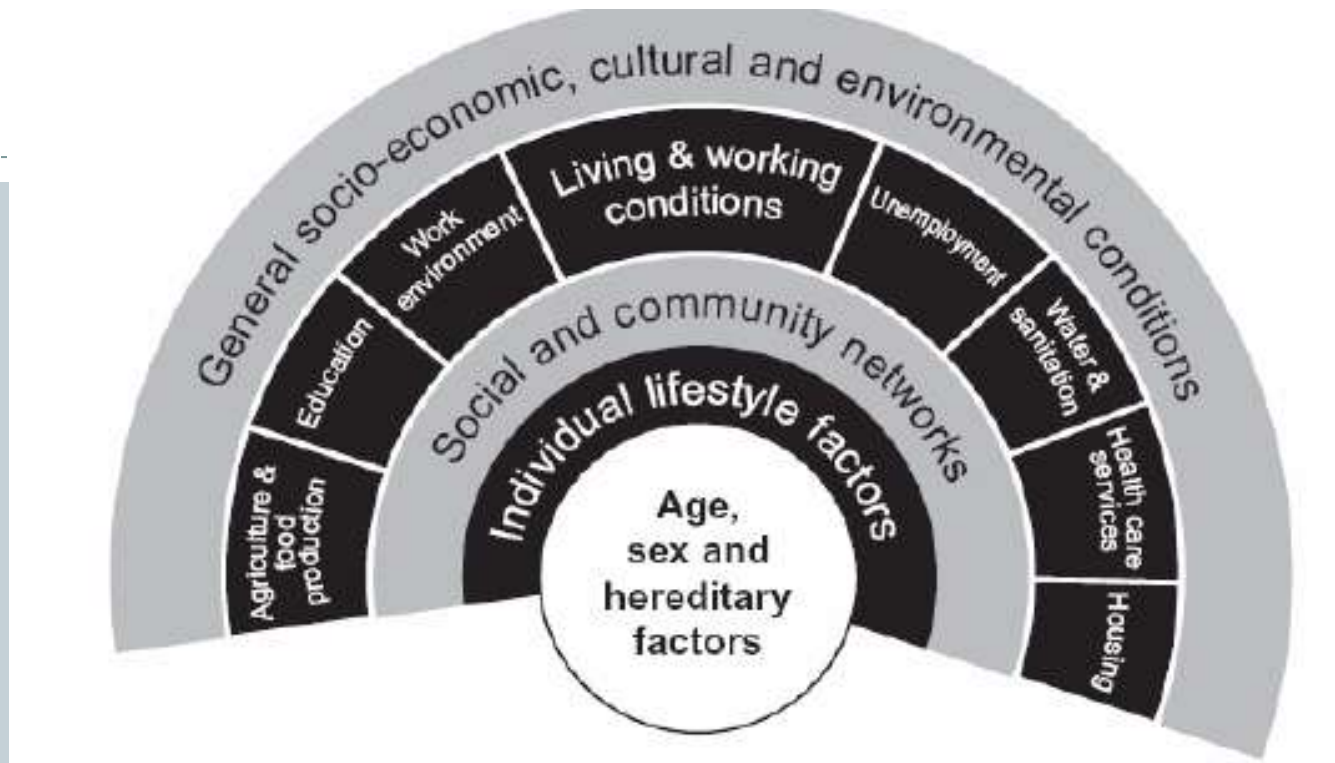
“Health has to do with bodily, mental and social quality of life of people as determined in particular by psychological, societal, cultural and policy dimensions”⁵.

or

“The state of being comfortable, healthy, or happy”⁶.

or

“Good or satisfactory condition of existence”⁷.



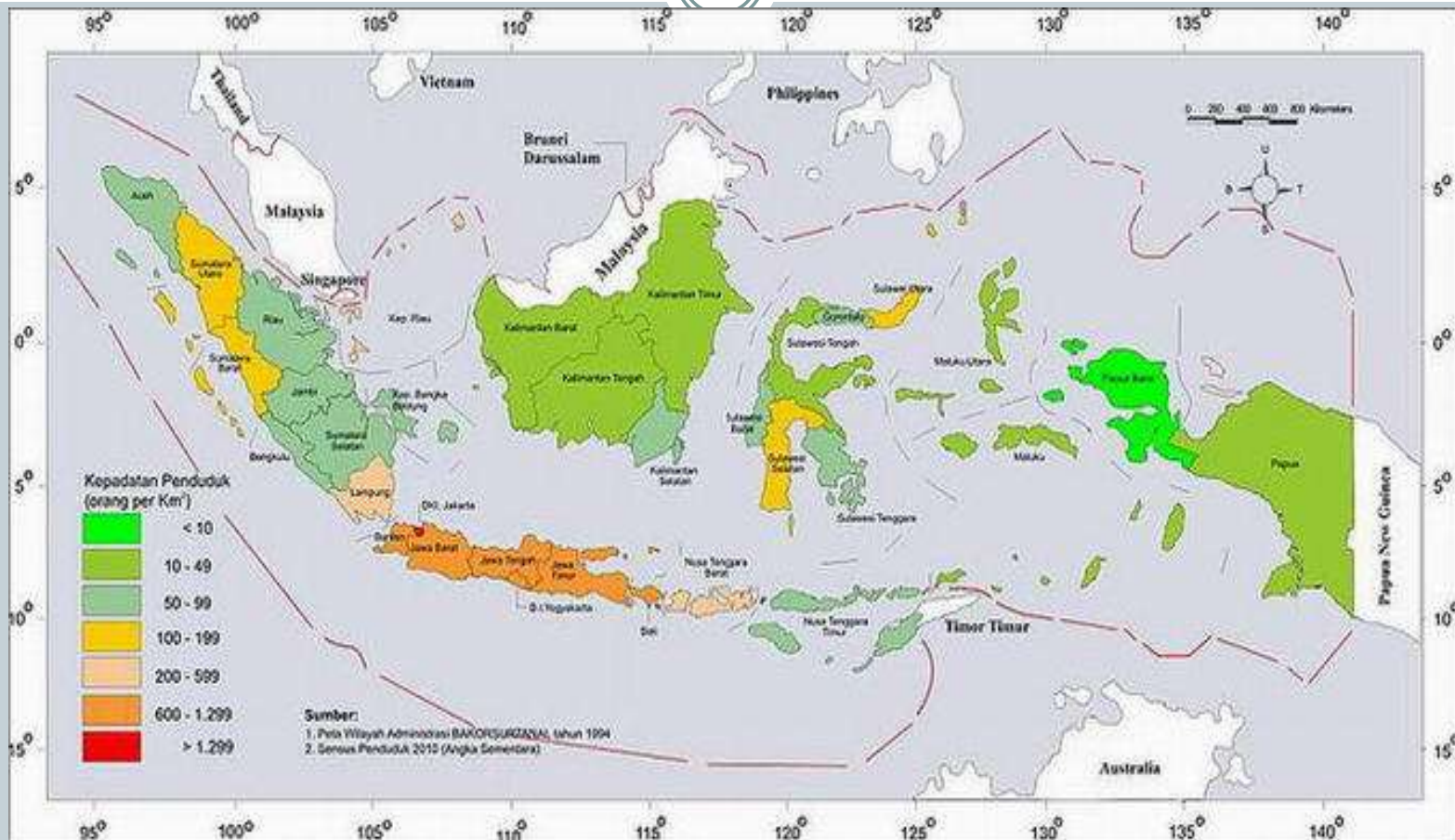
Dahlgren and Whitehead's Social Determinants of Health Rainbow

demonstrates the layers and interconnectedness of the various sociological, environmental and health related factors that influence our health and perceptions of wellbeing.

Figure

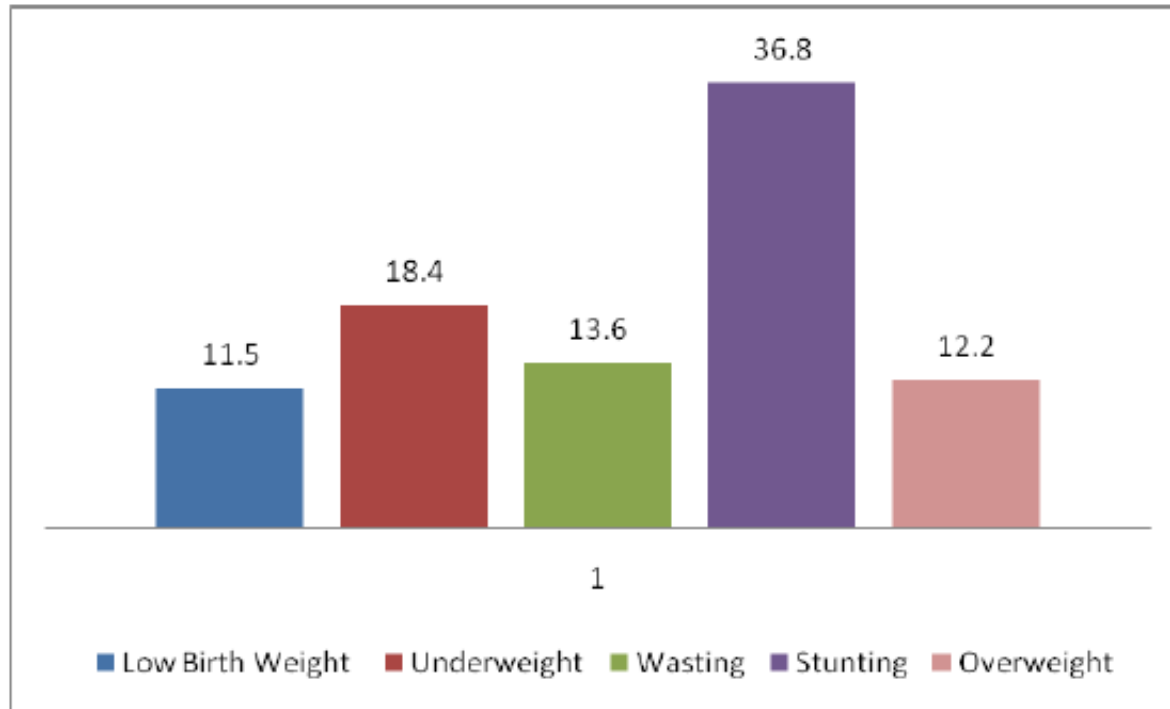
Health problem in Indonesia

4



- Geography, population and infrastructure, disparity, double burden in nutrition, etc.

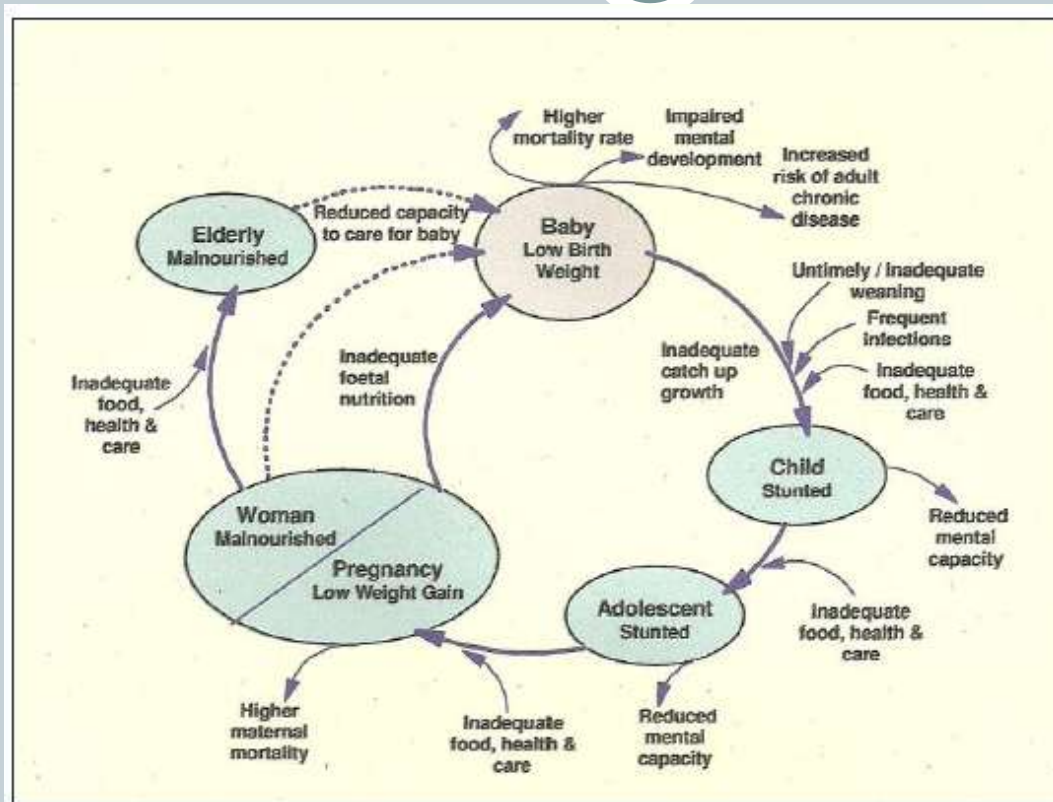
Nutritional Issues of Children Under 5 in Indonesia



Indonesia has the fifth highest number of stunted children in the world – more than 7.6 million children (UNICEF, 2009b).

The number of wasted children is 2.8 million, and 3.8 million are underweight. At the same time, a growing percentage of children are overweight (12.2% nationally).

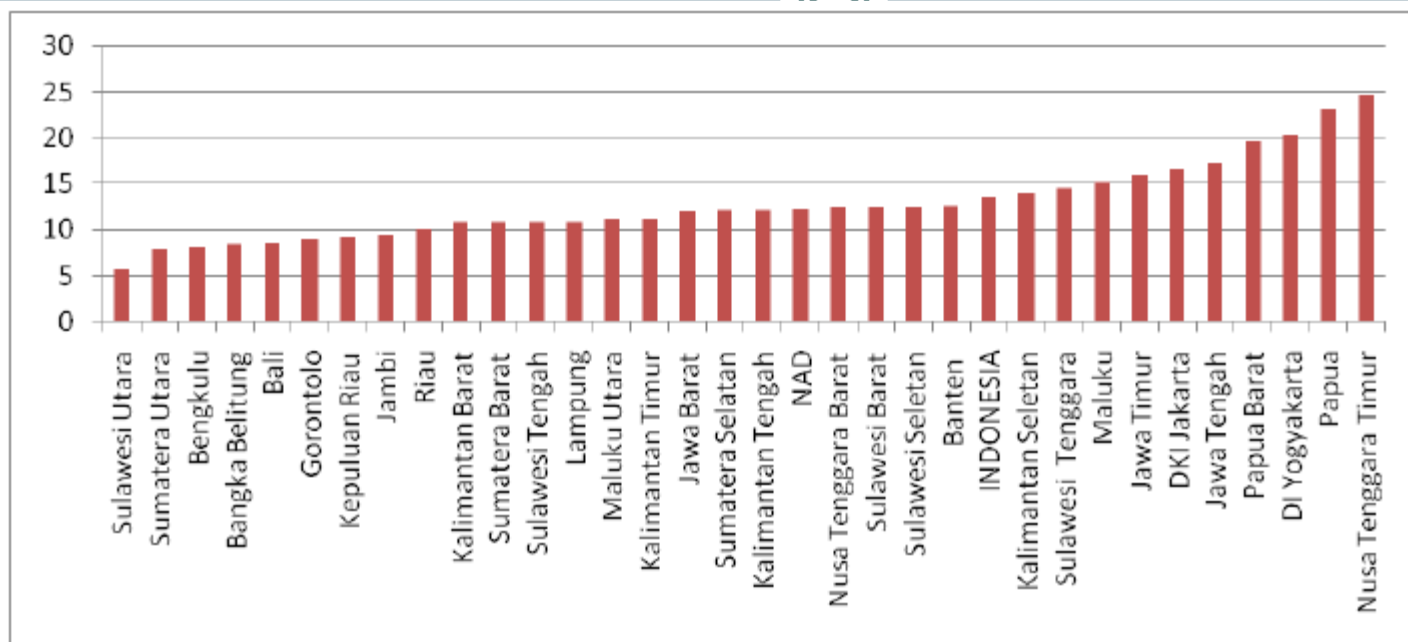
- how deficiencies at critical times can impact a generation?



The most important nutritional problems among women in Indonesia are micronutrient deficiencies preconception and pregnancy and lactation and suboptimal calorie intake during pregnancy.

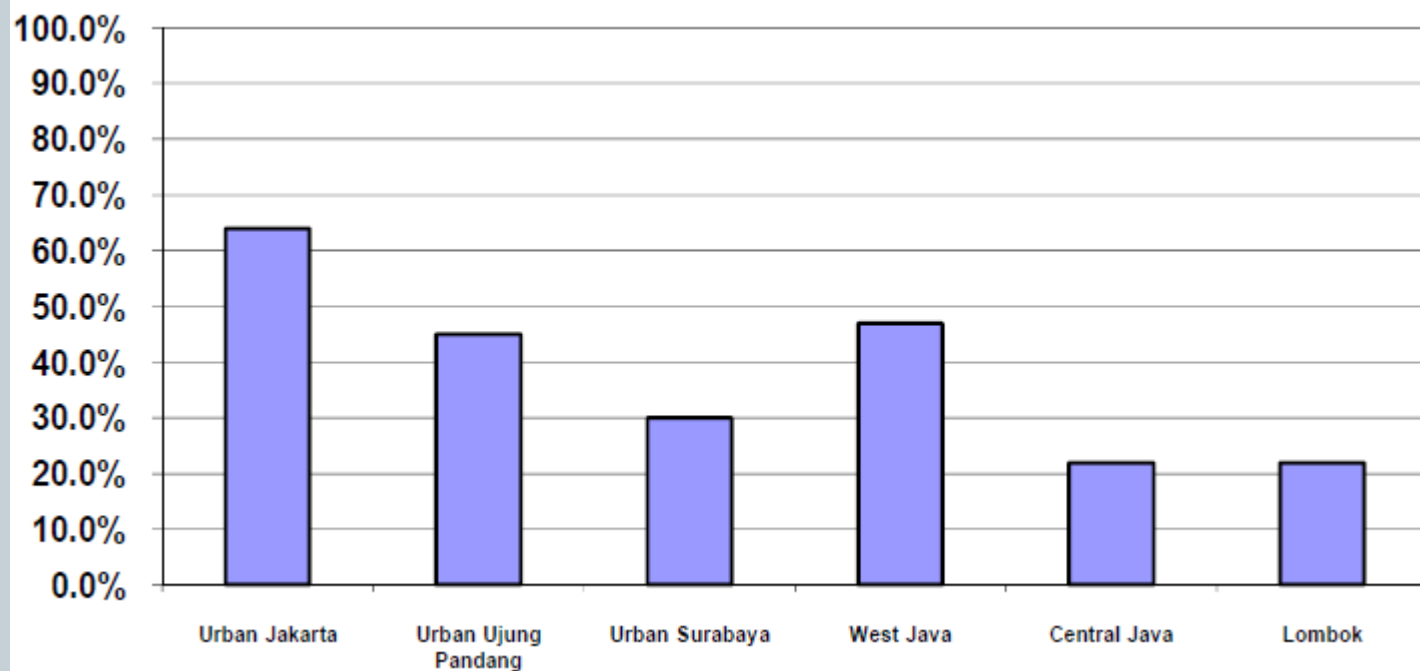
Prevalence of Underweight Nonpregnant Women by Province

8

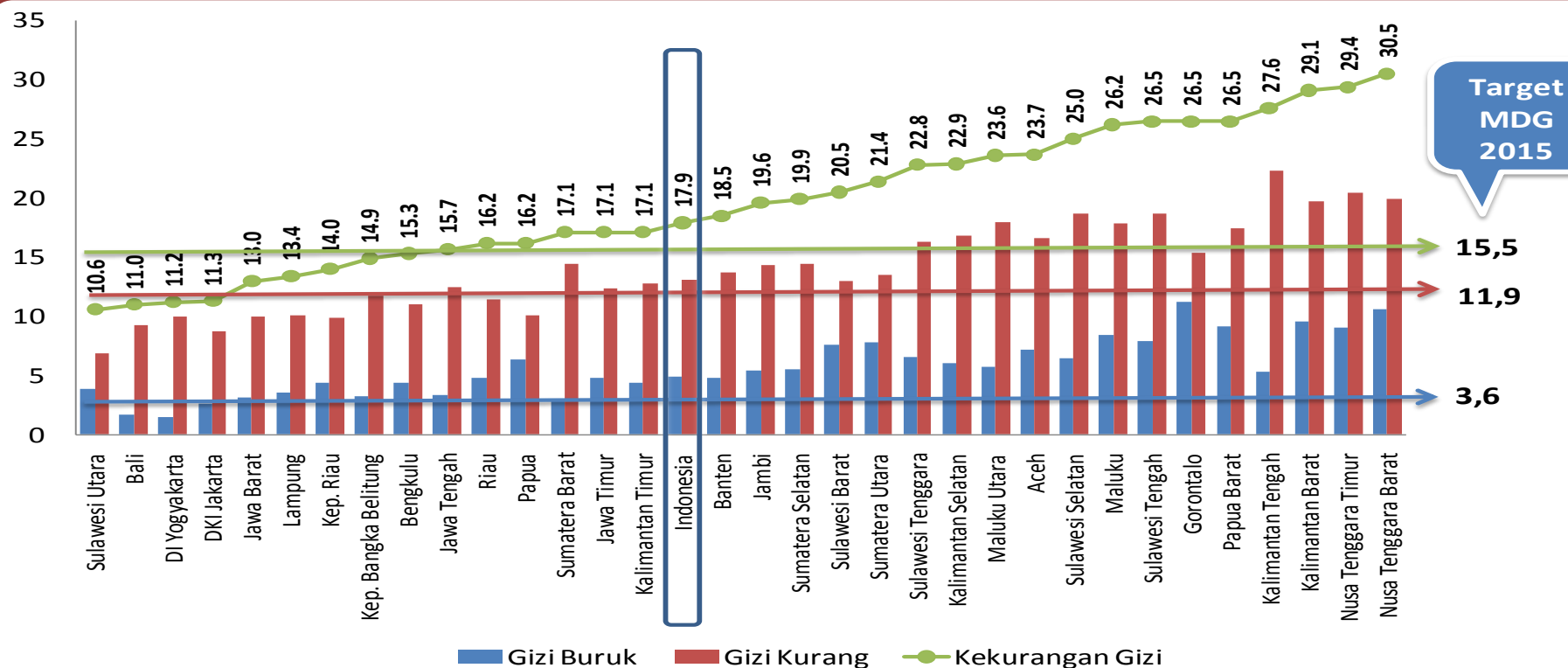


Over 13% of pregnant Indonesian women are undernourished (**Mid Upper Arm Circumference less than 23.5 cm**). Highest rates are in NTT (24.6%), Papua (23.1%), Yogyakarta (20.2%), Papua Barat (19.6%), and Central Java (17.2%).

Prevalence of Anemia Among Pregnant Women, 1999



Low birthweight by province 2010



Sumber : Riskesdas 2010

LBW for Indonesia as a whole is 11.5%; it is highest in Papua (27%), Papua Barat (23.8%), Nusa Tenggara Timur (NTT) (20.3%), Maluku (15.7%), Yogyakarta (14.9%) and South Kalimantan (12.4%).

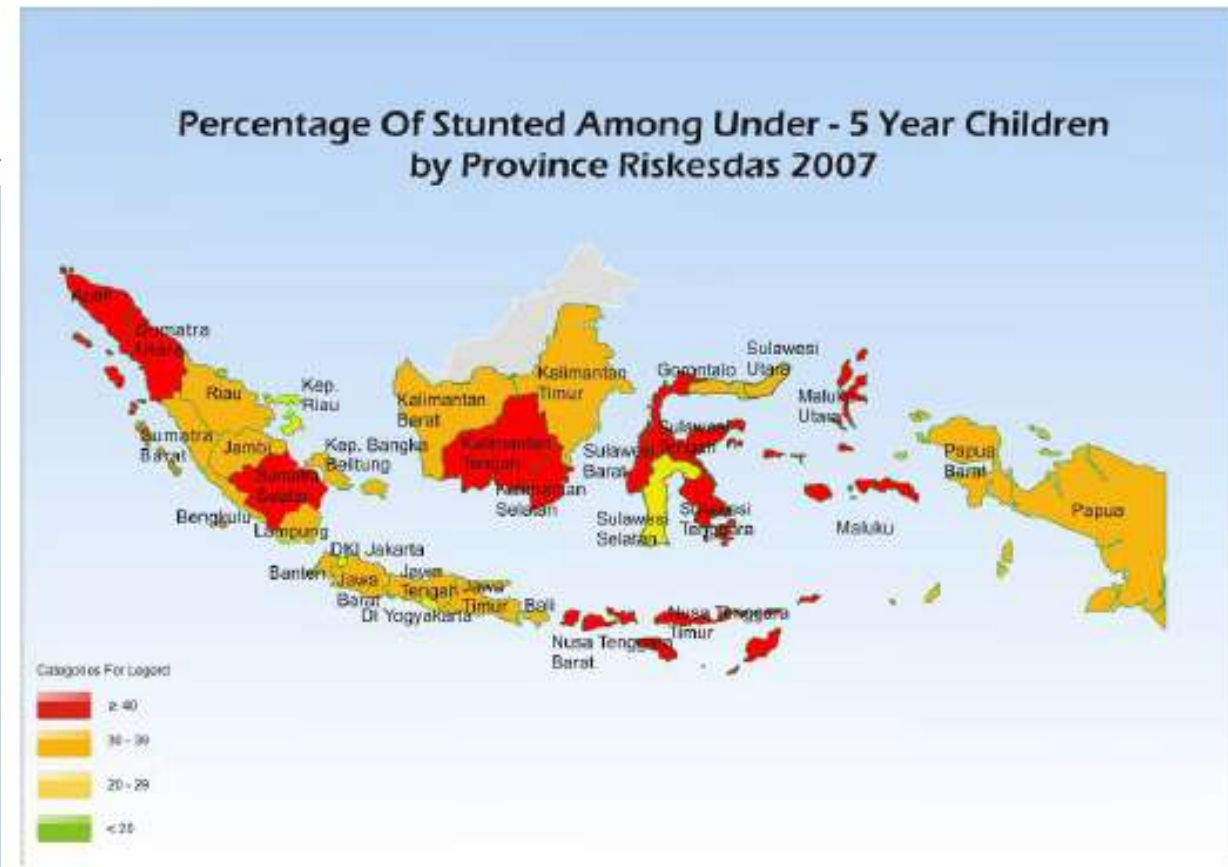
Riskesdas 2007

11

Map: Underweight Among Under-5 Children by Province, 2007 (Percent)



Map: Stunted Under-5 Children by Province (Percent)

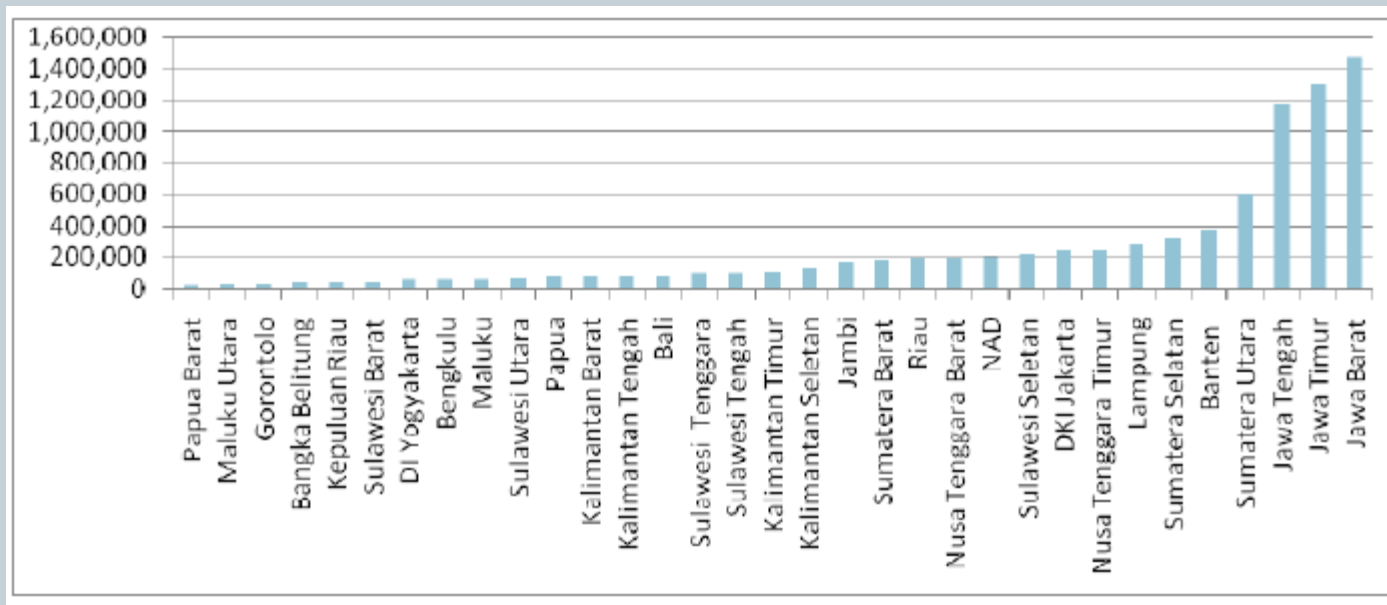


Stunting, the result of chronic and often intergenerational undernutrition coupled with frequent illness, is the hallmark of endemic poverty.

It is associated with lower cognitive development and poor productivity. A 1% decrease in height is equal to a 1.4% decrease in productivity (Haddad and Bouis, 1991).

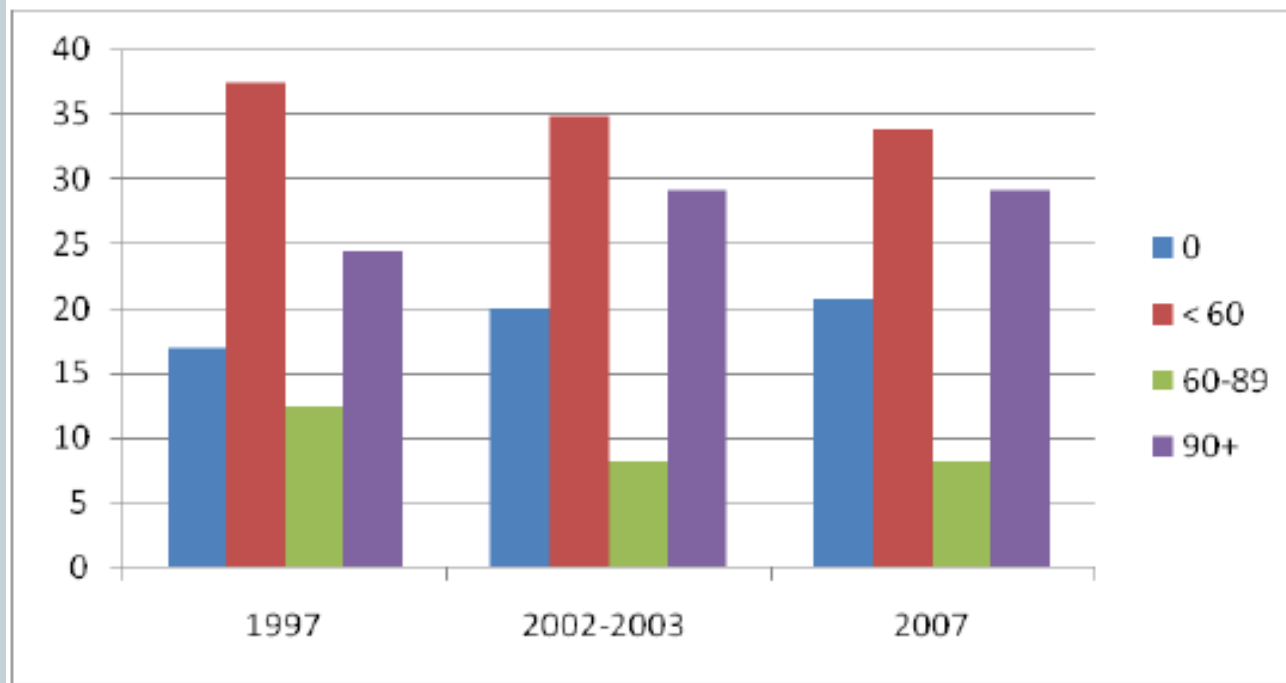
Stunted children in Indonesia by Province

13



A mother's nutritional status during pregnancy not only affects how her child will grow in utero. There is evidence that children whose intrauterine growth is retarded are also more likely to grow up stunted.

Iron Tablet Consumption by Pregnant Indonesian Women



Source: IDHS 1997, 2002–2003, 2007.

- Why Iron mangel?

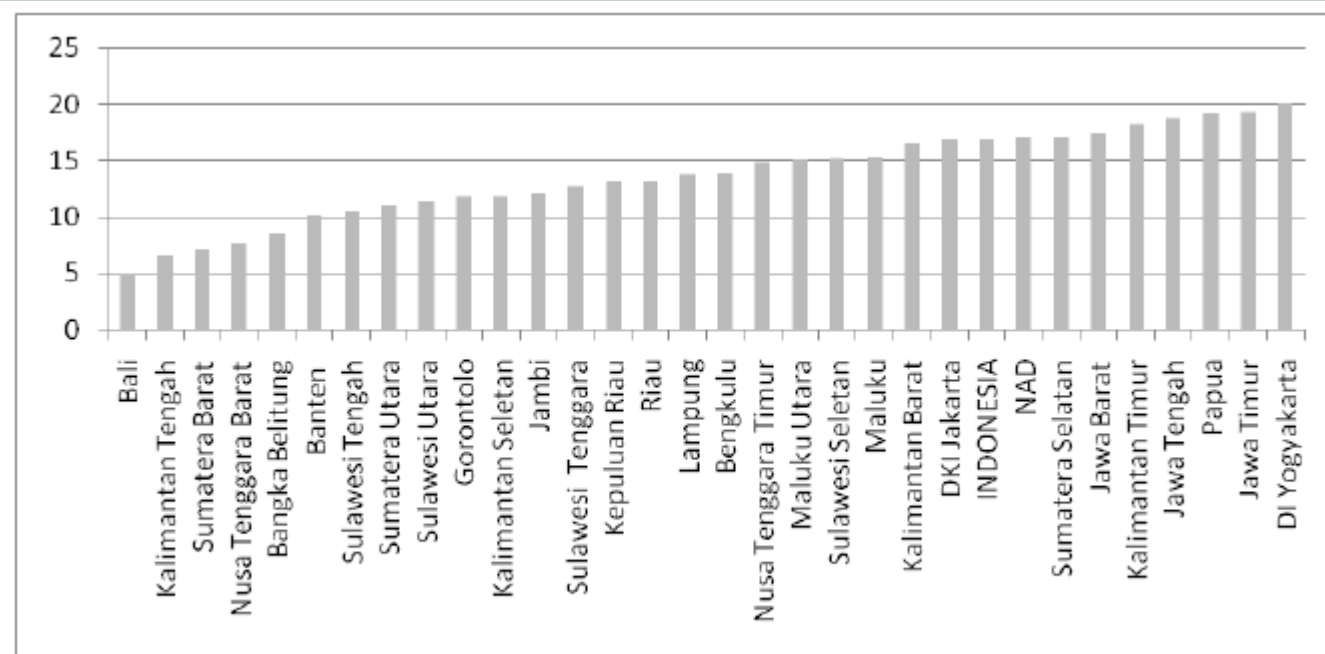
Cause of iron mangel

16

DIETARY	LIFECYCLE
Low levels of iron in diet	Repeated pregnancies
Low bioavailability of iron in the diet due to consumption of coffee, tea, excessive milk, poor intake of animal products, and few vitamin C- and A-rich foods	Bleeding associated with intrauterine devices
	Excessive menstrual bleeding
Low iron intake relative to demands during certain life phases (infancy, pregnancy and adolescence)	Elevated needs for iron during pregnancy and times of rapid growth during infancy, adolescence
Deficiencies of nutrients linked to iron metabolism	Deficiency during infancy linked to maternal anemia during pregnancy

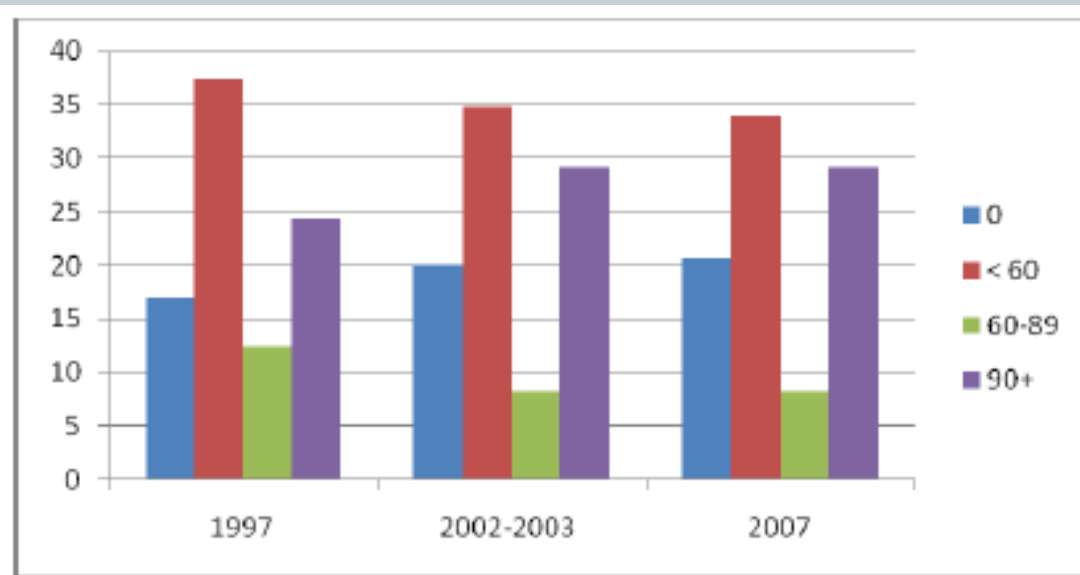
- Practices in some traditional cultures limit the diet or dietary diversity of pregnant or lactating
- mothers. For example in TTS district, *Action Contre la Faim* found that mothers eat only boiled
- corn for the first 40 days after birth. Generally, healthy foods like vegetables and beans are sold
- to buy rice, which adds little to the nutritional value of the diet.

Individuals Consuming Less than 1,700 kcals a day by Province (Percent)



Source: WFP, BPS 2006.

Iron Tablet Consumption by Pregnant Indonesian Women



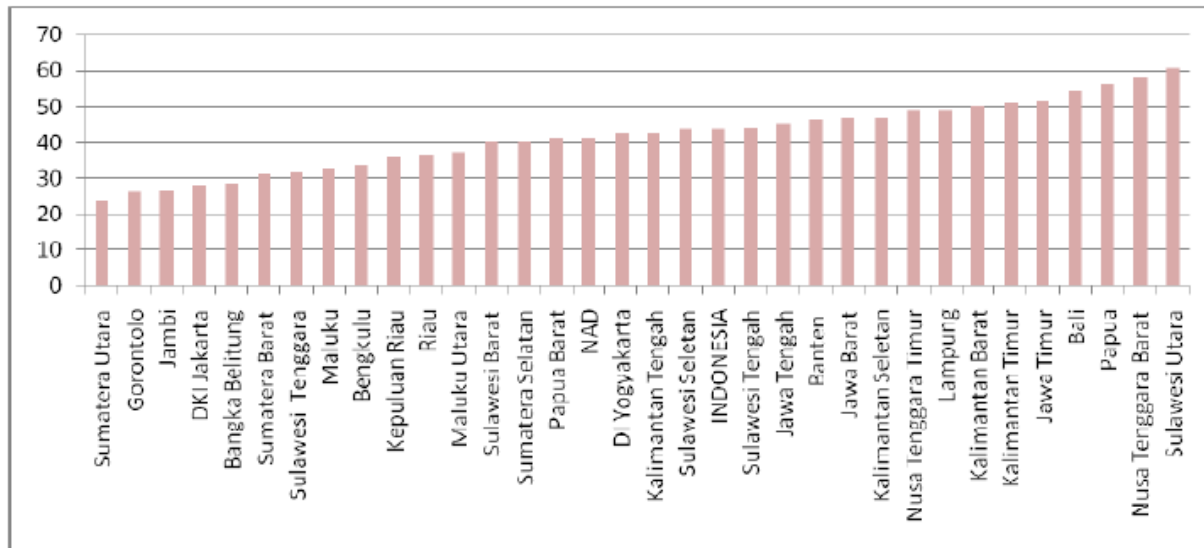
Source: IDHS 1997, 2002-2003, 2007.

- Why have maternal anemia exist?

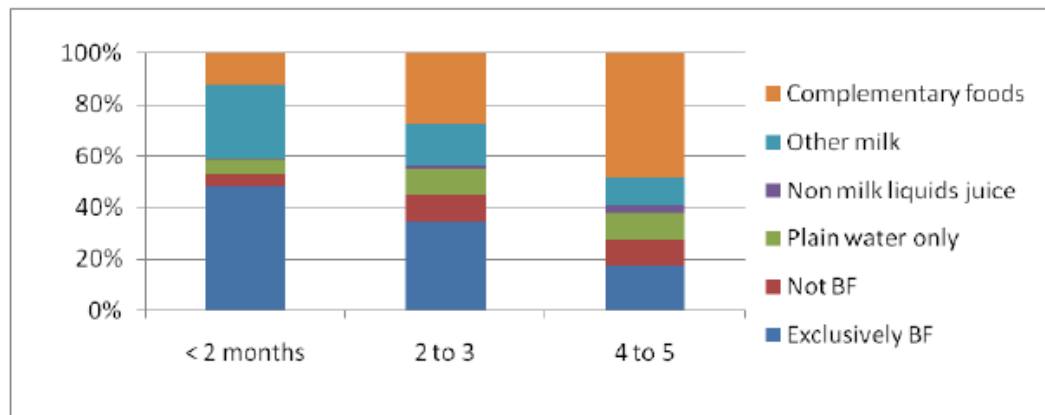
Causes of Iron Deficiency

DIETARY	LIFECYCLE
Low levels of iron in diet	Repeated pregnancies
Low bioavailability of iron in the diet due to consumption of coffee, tea, excessive milk, poor intake of animal products, and few vitamin C- and A-rich foods	Bleeding associated with intrauterine devices
	Excessive menstrual bleeding
Low iron intake relative to demands during certain life phases (infancy, pregnancy and adolescence)	Elevated needs for iron during pregnancy and times of rapid growth during infancy, adolescence
Deficiencies of nutrients linked to iron metabolism	Deficiency during infancy linked to maternal anemia during pregnancy

Immediate Breastfeeding by Province



Food and Liquids Given to Breastfed Babies < 6 Months Old

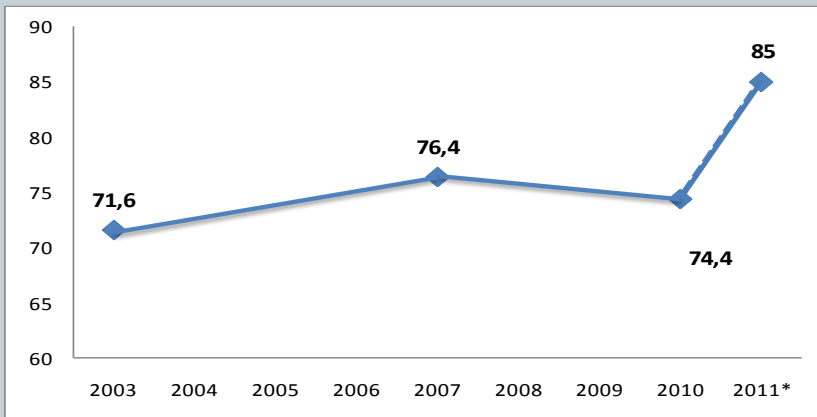


Source: IDHS, 2007.

- There is a common perception in Indonesia that “milk is nutrition” and a complete food that can substitute for the micronutrients children are not getting from fruits and vegetables.
- Children are fed from bottles well beyond the first and second year of life, and nearly all children in poor communities suffer from painful cavities due to consumption of milk from bottles and poor oral hygiene.
- In some cases bottles contain diluted sweetened condensed milk with very high sugar content. Painful teeth lead to poor appetite and a preference for more milk.
- The calcium in milk inhibits absorption of iron, exacerbating the problem of iron deficiency anemia.

Reduce Mortality rate

Persentase Cakupan Imunisasi Campak pada Anak Usia 12-23 bulan tahun 2003-2011



Sumber : SDKI 2002/2003, 2007 dan Riskesdas 2010

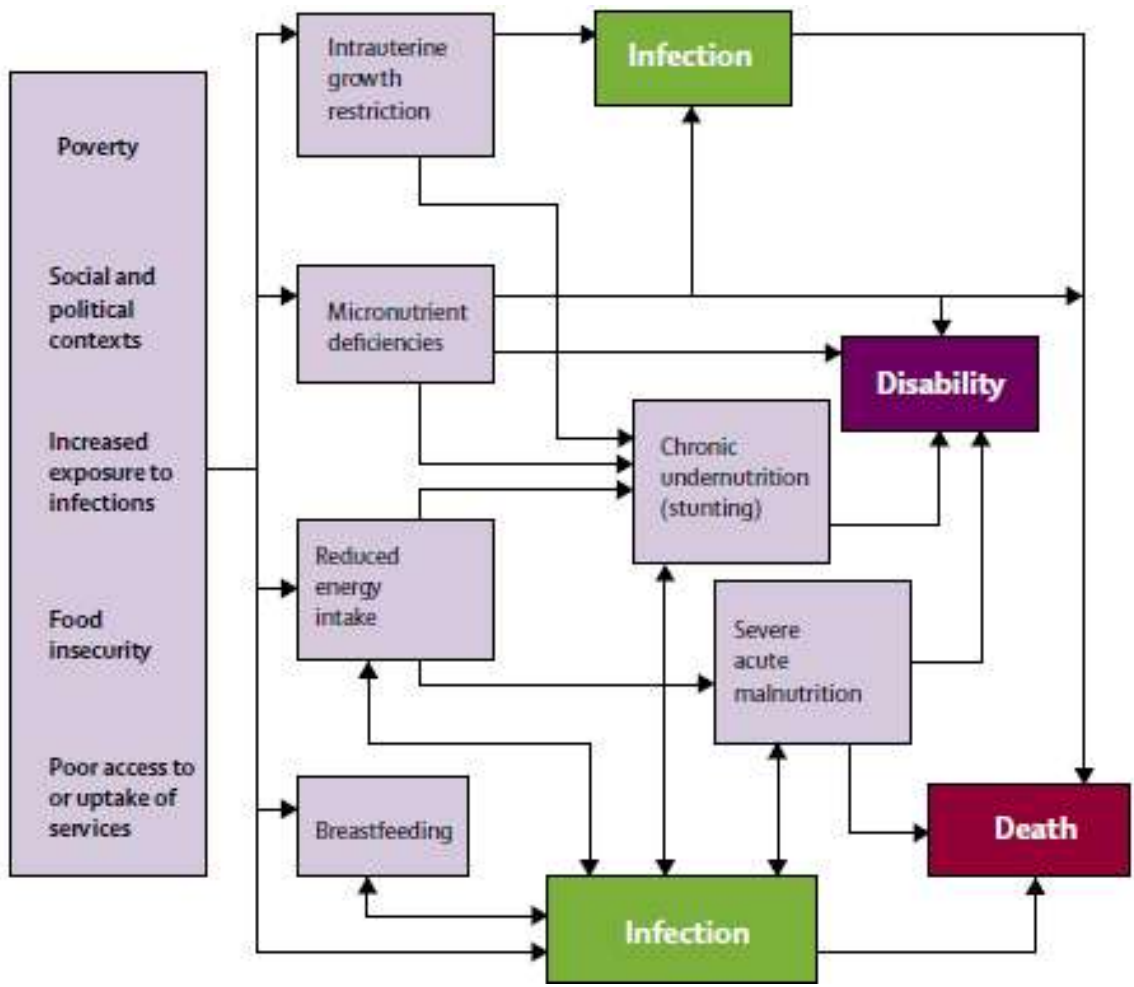
- Target AKB tahun 2015: 23 per 1.000 kelahiran hidup. Status saat ini: 34 per 1.000 kelahiran hidup (2007).
- Imunisasi merupakan salah satu intervensi yang efektif untuk mencegah kematian anak.
- Persentase anak usia 12-23 bulan yang mendapat imunisasi campak mencapai 74,4 persen (2010). Target RKP 2011 adalah 85 persen.

Prevalensi Kekurangan Gizi pada Balita (persen)



Sumber : Susenas 2005 dan Riskesdas 2007 & 2010

- Pembangunan gizi menjadi salah satu upaya yang dilakukan untuk meningkatkan kesehatan balita dan anak.
- Prevalence malnutrition under 5 Year reduce 24,5% (2005) to 17,9% (2010), Target RPJMN 2014 adalah < 15%, target MDGs sebesar 15,5% (2015)



Conceptual model of pathways to death and disability

Bhutta et. Al 2008

Scaling Up Nutrition

26

- A community-based nutrition program (2010-2014) covers all provinces and delivers nutrition specific interventions via the Ministry of Health. Fortification programs have been ongoing for many years, including universal salt iodization and flour fortification. Oil fortification with vitamin A will be mandatory from 2013. Rice fortification is under consideration.

- **Community-based Nutrition Program, 2010-2014**
Ministry in Charge: Ministry of Health
Expected Outcomes: (all provinces) reduction of malnutrition
- **Universal Salt Iodization Program**
Ministry in Charge: Ministry of Industry and Health, Bappenas
Objective: Improved coverage of households consuming adequately iodized salt in all provinces
- **Flour Fortification Program**
Ministry in Charge: Ministry of Industry and Health, Bappenas
Objective: Improved coverage of households consuming fortified flour in all provinces
- **Rice Fortification Program (*under development*)**
Ministry in Charge: Ministry of Industry and Health, Bappenas
Objective: Improved coverage of households consuming fortified rice in all provinces
- **Cooking Oil Fortification Program (*will be mandatory in 2013*)**
Ministry in Charge: Ministry of Industry and Health, Bappenas
Objective: Improved coverage of households consuming fortified cooking oil in all provinces

Agriculture and Food Security

28

- Programs aimed at strengthening agricultural development and increasing food security are essential components to scaling up nutrition. These programs ensure that nutritious food is affordable and accessible to everyone and empower small farmers to lift families and communities out of poverty.
- The Ministry of Agriculture is improving food availability, access, quality and safety in all provinces through promoting greater production of diversified crops, vegetables and livestock/fish, and subsidizing rice for the poor.
- **Program to Improve Food Availability, Access, Quality and Safety**
- **Ministry in Charge:** Ministry of Agriculture
- **Improving In-Country Marketing of Fishery Products Program**
- **Ministry in Charge:** Ministry of Marines and Fisheries
- **Objective:** Improve access to nutritious, local food

Education

29

- Children who are well nourished are able to concentrate and learn better at school. There is convincing evidence for a strong link between the level of a mother's education and her child's nutritional status. Programs that promote strong linkages between nutrition and education can play a key role in advancing overall efforts to improve nutrition outcomes.
- There are two main educational programs related to nutrition: health education in schools and the early childhood development program.
- **School Health Program**
- **Ministry in Charge:** Ministry of Religious Affairs and Ministry of Home Affairs
- **Holistic and Integrated Early Child Development Program**
- **Ministry in Charge:** Ministry of Education

Social Protection

30

- **District- and household-level cash transfer and small grant programs** that include nutrition will empower communities by reducing vulnerability ensuring that basic needs can be met, including securing access to a nutritious diet, particularly in times of crisis or instability.
- **The Cash Transfer program** aims to contribute to improved nutrition through the use of conditionalities for beneficiary households which are related to nutrition such as attendance of at least four ante-natal care check-ups; uptake of iron folic acid supplementation; provision of vitamin A capsules for young children; and child growth monitoring. The PNPM – Generasi + project also monitors success around these nutrition-related indicators.

- **Cash Transfer Program, 2007 (ongoing)**
Ministry in Charge: Ministry of Social Affairs
Objective: Improve health care practices and education
Coverage: 18/33 provinces; 778,000 households
- **PNPM – Generasi Project**
Ministry in Charge: Bappenas, Ministry of Finance (MoF), Ministry of Home Affairs (MoHA), Ministry of Health (MoH)
Objective: Reduction of stunting and reduction of prevalence of low birth weight
- **Household Conditional-Cash transfer Program (Hopeful Family Program), 2007**
Responsible Body: Ministry of Home Affairs
- **Incentivized Community Block Grant Program (National Program for Community Empowerment), 2007**
Responsible Body: Ministry of Social Affairs

Mobilizing Resources

32

- Total funds allocated for nutrition at the central level to the Ministry of Health, Department of Nutrition is 70 million USD per year. Each of the 33 provinces and 497 districts have their own resources which add to the central level contribution. For example, each district is responsible for ensuring their own stock of vitamin A capsules.
- Finance information has been tracked for nutrition-specific programs, the Cash Transfer Program, the Community Block-Grant program and for the Agricultural Program. Gaps have not yet been identified and the contribution of external donors cannot currently be verified, as the mapping has not been finalized yet.

When children are healthy and productive
their families, communities, and countries become stronger.

