

SELAMAT JUMPA

SALAM KENAL



Hardinsyah Hp 08129192259

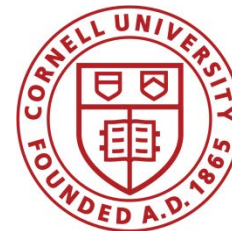
@Hardin_IPB @Wellness_ID

hardinsyah.net

hardinsyah2010@gmail.com



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA





Prof. Hardinsyah, MS. PhD

Born in Pekanbaru, Indonesia, 7 August 1959

Graduated Bachelor degree in Nutrition from Bogor Agricultural University of Indonesia (IPB), MS degree in Community Nutrition from IPB. Then PhD in Nutrition from University of Queensland – Brisbane Australia.

Experiences and previous position: Research of interest on maternal and child nutrition, and food security. Visiting scholar at Cornell University, and University of Hawai, USA. Professor and Head of the Department of Community Nutrition, Dean of Faculty of Human Ecology, (FEMA IPB) and Director of Collaboration of IPB.

Currently, as the Professor of Human Nutrition at the Department of Community Nutrition, FEMA IPB, and the Chairman of the Food and Nutrition Society of Indonesia (PERGIZI PANGAN Indonesia) as well as the Chairman of the Nutrition Higher Education Association Food of Indonesia (AIPGI)

Email hardinsyah2010@gmail.com cell phone +628129192259 Tweeter @Hardin_IPB & FB Hardin ipb

MINIMUM COST OF ADEQUATE DIET FOR PREGNANT WOMEN AND CHILDREN

Indonesian Health Health Association
(InaHEA) Congress
Jakarta, 7-10 April 2015

Prof. Dr. Hardinsyah, MS
Department Community Nutrition,
Faculty of Human Ecology (FEMA) IPB
Chairman
The Food and Nutrition Society of Indonesia
2015



MINIMUM COST OF ADEQUATE DIET FOR PREGNANT WOMEN AND CHILDREN

1. Cost of Adequate Diet
2. Main Nutrients Required By Children And Pregnant Women
3. Studies on Minimum Cost of Diet for PW & C5Y
4. Conclusions



1.

COST OF ADEQUATE DIET

- 1. Cost of Adequate Diet**
- 2. It is often called a Cost of Nutritious Diet, or a Cost of Healthy Diet**
- 3. Computed based on food pattern, nutritional requirement and price of the foods**
- 4. It varies depend on the food packed and the price of the foods, and the nutrient requirement**

The Minimum Cost of Adequate Diet is the cost theoretical diet that satisfies all nutrient requirements of a family or a person at the minimum possible cost based on the availability, price, and nutrients content of selected foods.

It is analyzed applying a linear programming model that have been developed by WHO, Save the Children and WFP

“People often say that healthier foods are more expensive, and that such costs strongly limit better diet habits,” said lead author Mayuree Rao, a junior research fellow in the [Department of Epidemiology](#) at HSPH. “But, until now, the scientific evidence for this idea has not been systematically evaluated, nor have the actual differences in cost been characterized.”



The healthiest diets cost about \$1.50 more per day than the least healthy ones, according to new research from [Harvard School of Public Health](#)

The researchers found that healthier diet patterns — for example, diets rich in fruits, vegetables, fish, and nuts — cost significantly more than unhealthy diets (for example, those rich in processed foods, meats, and refined grains). On average, a day's worth of the healthiest diet patterns cost about \$1.50 more per day than the least healthy ones.

The researchers suggested that unhealthy diets may cost less because food policies have focused on the production of “inexpensive, high volume” commodities, which has led to “a complex network of farming, storage, transportation, processing, manufacturing, and marketing capabilities that favor sales of highly processed food products for maximal industry profit.” Given this reality, they said that creating a similar infrastructure to support production of healthier foods might help increase the availability — and reduce the prices — of more healthful diets.



2.

MAIN NUTRIENTS REQUIRED BY CHILDREN AND PREGNANT WOMEN



RDA of Main Nutrients for Children CUFY & PW

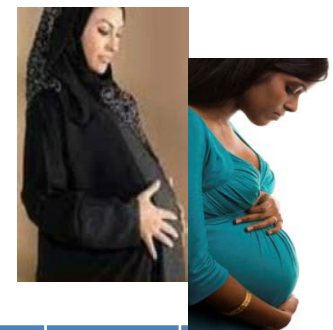
Group	Energy (kcal)	Protein (g)	Fat (g)	Water (mL)	Ca (mg)	Fe (mg)	Zn (mg)	B (ug)9	B12 (ug)	Vit C (mg)
Children	1125	26	44	1200	650	8	4	160	0.9	40
Children	1600	35	62	1500	1000	9	5	200	1.2	45
Mean	1362.5	30.5	53.0	1350.0	825.0	8.5	4.5	180.0	1.1	42.5

PW **2435.0** **77.3** **77.3** **2533.3** **1300.0** **33.3** **16.7** **600.0** **2.6** **85.0**

PW is about 1.8 Child Eq Unit

Source: RDA for Indonesians (2013)

RDA of Main Nutrients for Female & Pregnant Women



Group	Energy	Protein	Fat	Water	Ca	Fe	Zn	Folate	B12	Vit C
Female 16-19	2125	59	71	2100	1200	26	14	400	2.4	75
Female 19-29	2250	56	75	2300	1100	26	10	400	2.4	75
Female 30-49	2150	57	60	2300	1000	26	10	400	2.4	75
1 st TM	+180	+20	+6	+300	+200	+0	+2	+200	+0.2	+10
1 st TM	+300	+20	+10	+300	+200	+9	+4	+200	+0.2	+10
1 st TM	+300	+20	+10	+300	+200	+13	+10	+200	+0.2	+10

Source: RDA for Indonesians (2013)

Mean RDA of Main Nutrients for Pregnant Women Aged 16-40 yrs



Group	Energy (kcal)	Protein (g)	Fat (g)	Water (mL)	Ca (mg)	Fe (mg)	Zn (mg)	B (ug) ⁹	B12 (ug)	Vit C (mg)
Female 16-18 yrs	2125.0	59.0	71.0	2100.0	1200.0	26.0	14.0	400.0	2.4	75.0
Female 19-29 yrs	2250.0	56.0	75.0	2300.0	1100.0	26.0	10.0	400.0	2.4	75.0
Female 30-49 yrs	2150.0	57.0	60.0	2300.0	1000.0	26.0	10.0	400.0	2.4	75.0
Mean	2175.0	57.3	68.7	2233.3	1100.0	26.0	11.3	400.0	2.4	75.0
1 st TM	180.0	20.0	6.0	300.0	200.0	0.0	2.0	200.0	0.2	10.0
1 st TM	300.0	20.0	10.0	300.0	200.0	9.0	4.0	200.0	0.2	10.0
1 st TM	300.0	20.0	10.0	300.0	200.0	13.0	10.0	200.0	0.2	10.0
Mean	260.0	20.0	8.7	300.0	200.0	7.3	5.3	200.0	0.2	10.0
Total	2435.0	77.3	77.3	2533.3	1300.0	33.3	16.7	600.0	2.6	85.0

3. STUDIES ON COD



KEMENTERIAN KESEHATAN RI
2014



Limited studies available



TABLE 2. Weekly Minimum Cost of a Nutritious Diet (MCNut) and Locally Adapted Cost Optimized Nutritious Diet (LACON) in Indonesian rupiah (IDR^a) in four areas of Indonesia according to number of household members consuming the diet

Members consuming diet	Timor Tengah Selatan Jun 2012	Sampang Dec 2011	Surabaya Apr 2012	Brebes May 2012
1 child 12–23 mo				
MCNut	14,983	7,888	10,542	10,268
LACON	16,796	10,446	13,587	11,550
3 other household members				
MCNut	157,883	94,226	116,627	122,334
LACON	196,015	126,071	141,430	131,264
All household members				
MCNut	172,866	102,114	127,169	132,602
LACON	212,812	136,518	155,017	142,814

a. US\$1 = 9,500 IDR.

Weekly Minimum Cost of Nutritious Diet for Children and for Family (USD) in Indonesia

	TTS June 2012	Sampang, Dec 2011	Surabaya, April 2012	Brebes, May 2012
Cost for Children	1.58 USD	0.83 USD	1.11 USD	1.08 USD
Cost for Others	16.62 USD	9.92 USD	12.28 USD	12.88 USD
Cost for family	18.20 USD	10.75 USD	13.39 USD	13.96 USD

Baldi et al (2013)

Cost of Diet Tool: Results from Indonesia. FNB

Weekly Locally Optimum Cost of Nutritious Diet for Children and for Family (USD) in Indonesia

	TTS June 2012	Sampang, Dec 2011	Surabaya, April 2012	Brebes, May 2012
Cost for Children	1.77 USD	1.10 USD	1.43 USD	1.22 USD
Cost for Others	20.63 USD	13.27 USD	14.89 USD	13.82 USD
Cost for family	22.40 USD	14.37 USD	16.32 USD	15.03 USD

Baldi et al (2013)

Cost of Diet Tool: Results from Indonesia. FNB

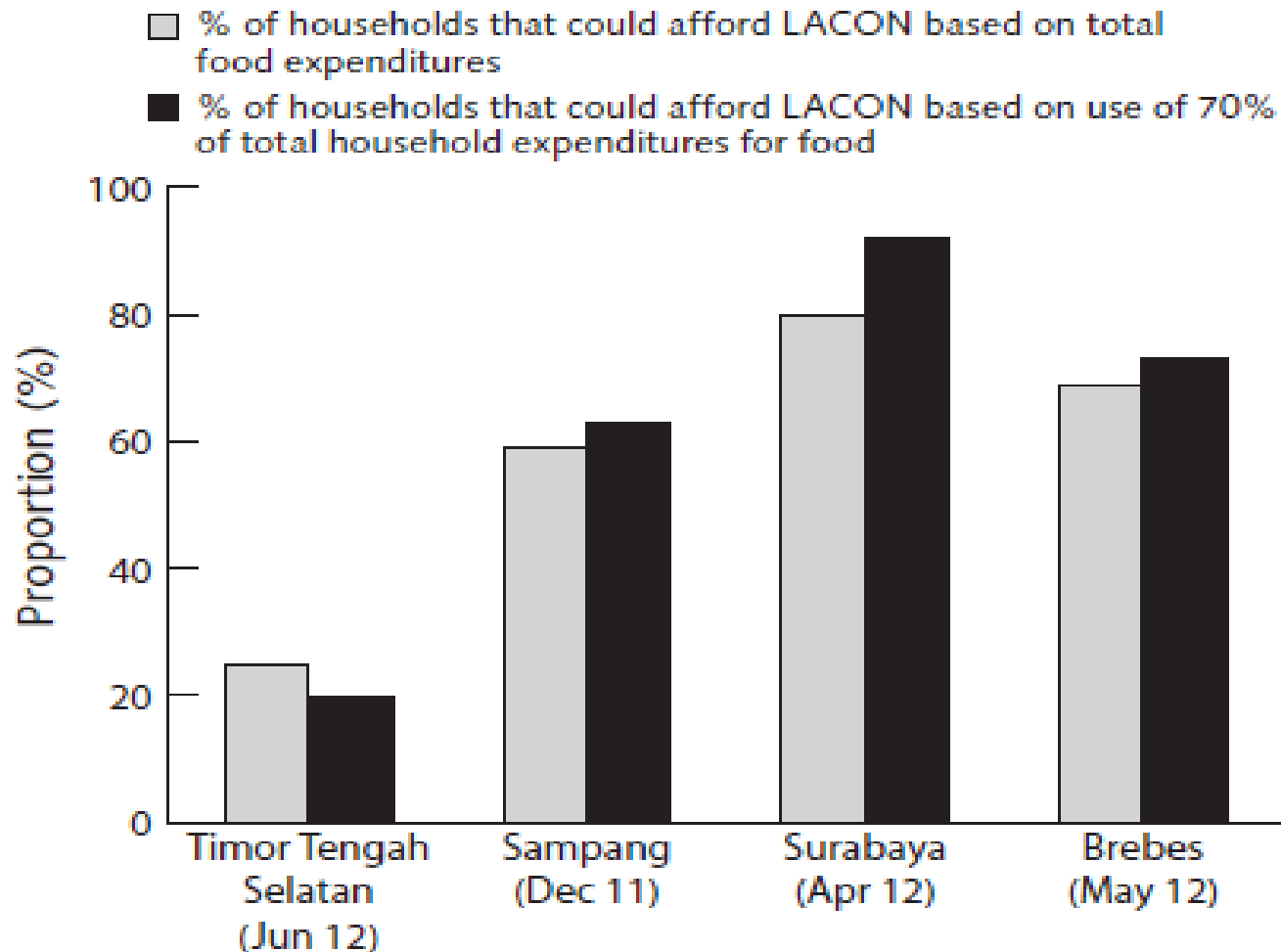
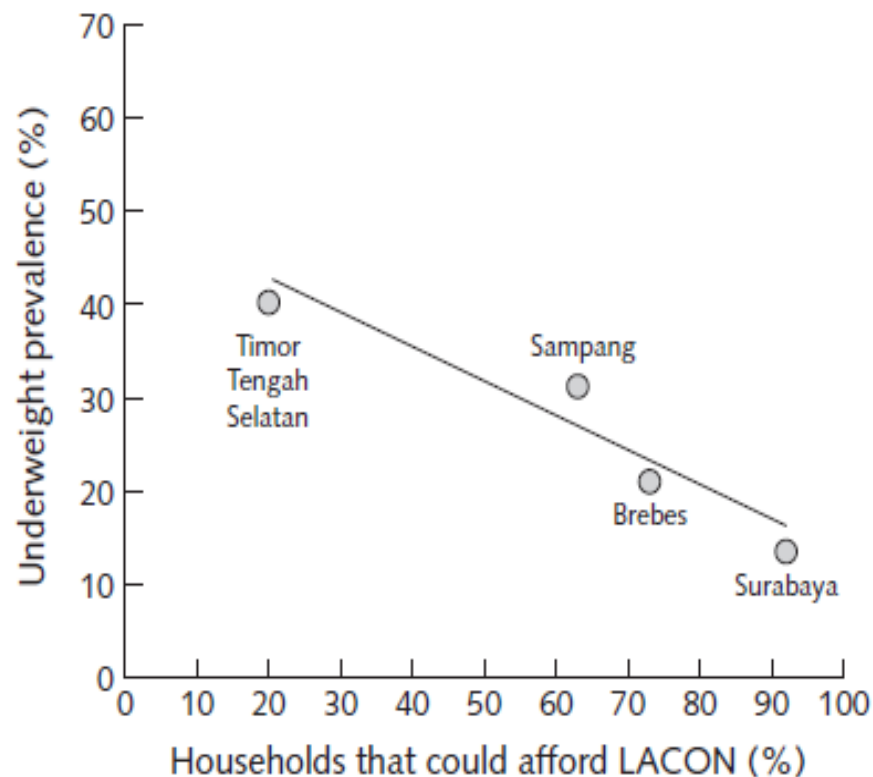
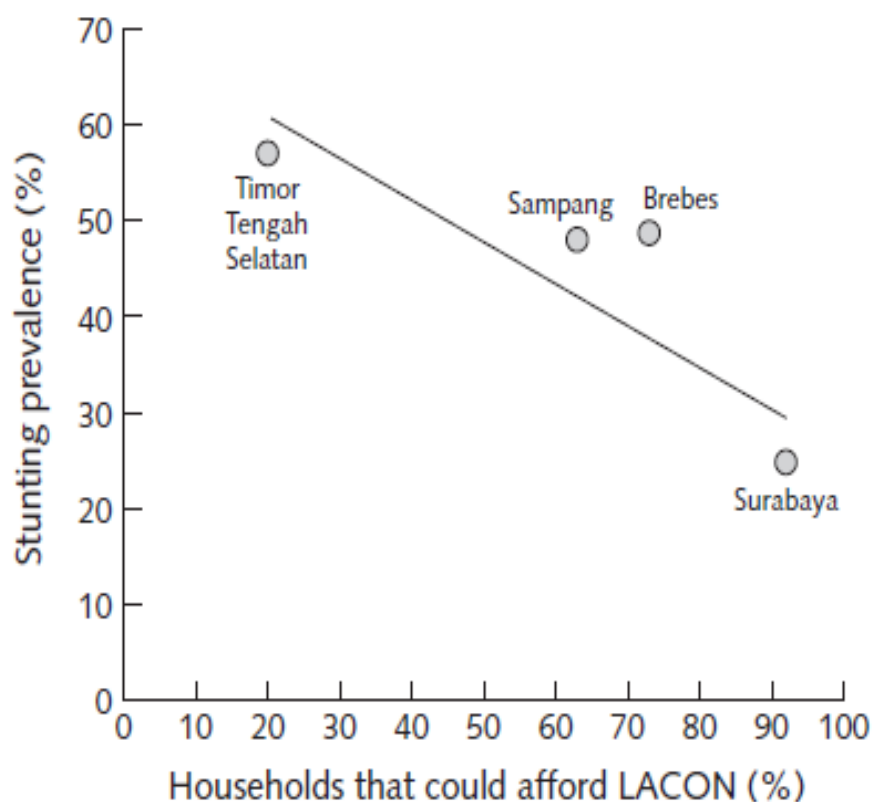


FIG. 1. Proportion of households that could afford the Locally Adapted Cost Optimized Nutritious Diet (LACON) in the four areas

FIG. 2. Correlation between proportion of households that could afford the Locally Adapted Cost Optimized Nutritious Diet (LACON) and the prevalence of undernutrition (stunting and underweight); the regression line is also shown



Cost of family diet higher than Labour wage/day USD

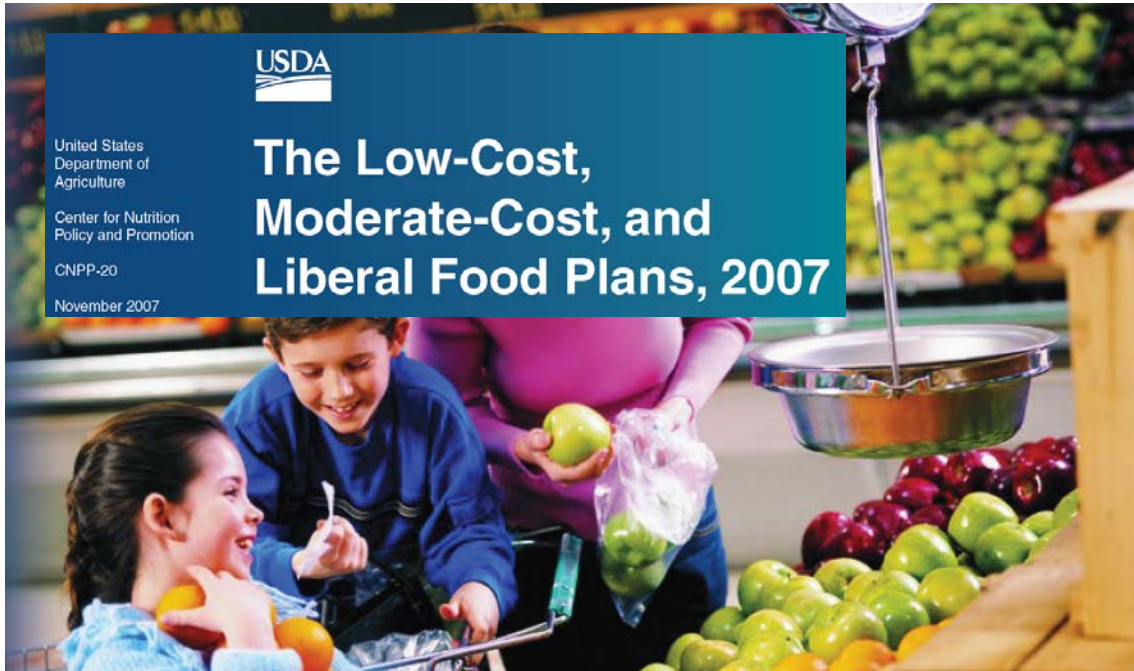
	Bangladesh	Ethiopia	Myanmar	Tanzania	Indonesia
Labour cost/d	0.90	0.88	0.57	0.62	5 (?)
Cost of Diet /Family/d	0.91	1.27	1.15	0.72	2.0-2.15

Chastre et al (2007)

The Minimum Cost of Diet: Findings from Piloting A New Methodology in four Study Locations (Bangladesh, Ethiopia, Myanmar and Tanzania)



Save the Children



United States Department of Agriculture

USDA 2015

Official USDA Food Plans: Cost of Food at Home at Four Levels, U.S. Average, February 2015 ¹

Age-gender groups	Weekly cost ²				Monthly cost ²			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan

Official USDA Food Plans: Cost of Food for Family Level, Feb 2015

Age-gender groups	Weekly cost ²			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Families				
Family (Male & Female) of 2: ⁴				
19-50 years	\$90.00	\$115.40	\$143.80	\$179.80
51-70 years	\$85.30	\$110.20	\$137.50	\$165.70
Family of 4:				
Couple (Male & Female), 19-50 years and children—				
2-3 and 4-5 years	\$131.00	\$167.30	\$207.10	\$256.50
6-8 and 9-11 years	\$150.70	\$198.40	\$247.10	\$299.70

¹ The Food Plans represent a nutritious diet at four different cost levels. The nutritional bases of the Food Plans are the 1997-2005 Dietary Reference Intakes, 2005 Dietary Guidelines for Americans, and 2005 MyPyramid food intake recommendations. In addition to cost, differences among plans are in specific foods and quantities of foods. Another basis of the Food Plans is that all meals and snacks are prepared at home. For specific foods and quantities of foods in the Food Plans, see [Thrifty Food Plan, 2006](#) (2007) and [The Low-Cost, Moderate-Cost, and Liberal Food Plans, 2007](#) (2007). All four Food Plans are based on 2001-02 data and updated to current dollars by using the Consumer Price Index for specific food items.

² All costs are rounded to nearest 10 cents.

³ The costs given are for individuals in 4-person families. For individuals in other size families, the following adjustments are suggested: 1-person—add 20 percent; 2-person—add 10 percent; 3-person—add 5 percent; 4-person—no adjustment; 5- or 6-person—subtract 5 percent; 7- (or more) person—subtract 10 percent. To calculate overall household food costs, (1) adjust food costs for each person in household and then (2) sum these adjusted food costs.

⁴ Ten percent added for family size adjustment.

Official USDA Food Plans: Cost of Food for Individual Level, Feb 2015

Age-gender groups	Weekly cost ²			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Individuals ³				
Child:				
1 year	\$21.90	\$29.60	\$33.40	\$40.70
2-3 years	\$23.90	\$30.70	\$36.90	\$45.10
4-5 years	\$25.20	\$31.70	\$39.40	\$48.00
6-8 years	\$32.40	\$45.50	\$53.90	\$63.70
9-11 years	\$36.40	\$48.00	\$62.40	\$72.60
Male:				
12-13 years	\$39.10	\$55.50	\$69.70	\$81.60
14-18 years	\$40.20	\$56.30	\$71.90	\$82.70
19-50 years	\$43.40	\$56.20	\$70.50	\$86.80
51-70 years	\$39.50	\$52.80	\$66.10	\$79.60
71+ years	\$39.80	\$52.40	\$64.90	\$80.60
Female:				
12-13 years	\$39.00	\$47.70	\$57.50	\$70.70
14-18 years	\$38.30	\$48.00	\$58.10	\$71.70
19-50 years	\$38.40	\$48.70	\$60.20	\$76.60
51-70 years	\$38.00	\$47.40	\$59.00	\$71.10
71+ years	\$37.10	\$47.00	\$58.30	\$70.20

Official USDA Food Plans: Cost of Food for Individual Level, Feb 2015

Age-gender	Monthly cost ²			
	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Individuals ³				
Child:				
1 year	\$94.70	\$128.20	\$144.60	\$176.50
2-3 years	\$103.70	\$133.00	\$160.00	\$195.50
4-5 years	\$109.30	\$137.40	\$170.70	\$207.90
6-8 years	\$140.40	\$197.00	\$233.60	\$275.80
9-11 years	\$157.90	\$208.10	\$270.50	\$314.80
Male:				
12-13 years	\$169.40	\$240.60	\$302.00	\$353.70
14-18 years	\$174.10	\$244.00	\$311.60	\$358.50
19-50 years	\$188.20	\$243.50	\$305.60	\$376.20
51-70 years	\$171.30	\$229.00	\$286.30	\$344.90
71+ years	\$172.60	\$227.00	\$281.40	\$349.20
Female:				
12-13 years	\$169.10	\$206.80	\$249.20	\$306.40
14-18 years	\$166.10	\$207.90	\$251.80	\$310.50
19-50 years	\$166.50	\$211.10	\$260.90	\$332.00
51-70 years	\$164.70	\$205.30	\$255.40	\$307.90
71+ years	\$160.80	\$203.60	\$252.80	\$304.40

4. CONCLUSSIONS

The minimum cost of adequate diet is one of the important information to be considered in the nutrition-health and poverty reduction and programs

A regular nation-wide information data on the minimum cost of adequate diet is urgently required for all regions of Indonesia (different food patterns & food prices)



TERIMA KASIH

Sampai Jumpa



Hardinsyah Hp 08129192259

@Hardin_IPB @Wellness_ID

hardinsyah.net

hardinsyah2010@gmail.com

