

# Research Priority Area 2

Monitoring of National Nutritional Status





## 3 MONITORING OF NATIONAL NUTRITIONAL STATUS

### 3.1 Introduction

The evolution in the lifestyle and dietary habits of Malaysians that has taken place over the last decade can be largely attributed to both in the family and social environment. These factors are known to affect the nutritional status of the community, whether children or adults. Reduced physical activity and changes in the diet have been the contributing factors to the rising prevalence of overweight and obesity both among children and adults (Mohd Ismail *et al.*, 2009; IPH, 2008). However Malaysia, being a country in nutrition transition, it is quite typical that double burden of malnutrition coexist (NCCFN, 2006).

It is very important that national nutritional status surveys are carried regularly in order to set up baseline and social diagnosis data, and later on to strengthen it. Currently there is only one Malaysian adult nutrition survey (MANS) [(MOH, 2008)] which was carried out among adults aged 18 to 59 years, while several national and health morbidity surveys such as, NHMS II (1966) and NHMS III (2006) as well as Malaysian non communicable diseases (Malaysia NCD Surveillance 2006; IPH 1999; IPH 2008) have been carried out. Other large scale studies on nutritional status of school children (Mohd Ismail *et al.*, 2009; Moy *et al.* 2004; Kasmini *et al.*, 1997) and young children (MOH, 2000) have also been reported. In assessing the nutritional status, in some studies only the anthropometry is used as the key tool (IPH, 2008, Kasmini *et al.*, 1997). In future nutritional status studies, it is imperative that all key components of nutritional status assessment be measured as this will ensure a comprehensive evaluation. This assessment should include determining the anthropometric status, energy and nutrient intakes, dietary/ meal pattern as well as habitual food intake and physical activity pattern.

With this background on past nutritional status carried out in Malaysia, it is clear that there is still a lack of national level data for several age groups in the population. In particular there is a need to study adolescents, elderly and the vulnerable groups such as infants and toddlers, preschoolers, pregnant women, elderly and the indigenous groups, On top of that, there is also a call for an improvement in the implementation with regards to the monitoring of national nutritional status. There should be regular periodic surveys, at least every 5 years or even every 10 years as long as the surveys are detailed and concise. There is also a need to improve the accessibility to the existing reports of past surveys. The development and the evaluation of a national nutrition data bank and a web based monitoring system are also required. Some emerging needs on the behavioural and socio economic issues need to be addressed. Currently there is no database on behavioural and economic factors.

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The current food composition table in Malaysia has complete data on the macronutrients for 580 of raw foods and 203 of cooked food items (Tee *et al.*, 1997). There is an urgency to improve and update the existing food composition database especially in some micronutrients such as zinc, selenium, vitamin D, vitamin B12, folic acid, fibre and fatty acids. This updated nutrient database is greatly and urgently needed in determining the dietary intake of all target groups in future national nutritional surveys and healthy dietary practices across the lifespan.

A large baseline database on nutritional status would be most useful to assist relevant policy makers, stakeholders and ministries such as Ministry of Health, Ministry of Education and Ministry of Women, Family and Community Development and the Ministry of Agriculture as a means to develop appropriate guidelines. In the food industries, such database could also help the industry to produce the right choice of food for the population.

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### 3.2 Conceptual Framework on the Purpose and Scope of the Research Priority Area

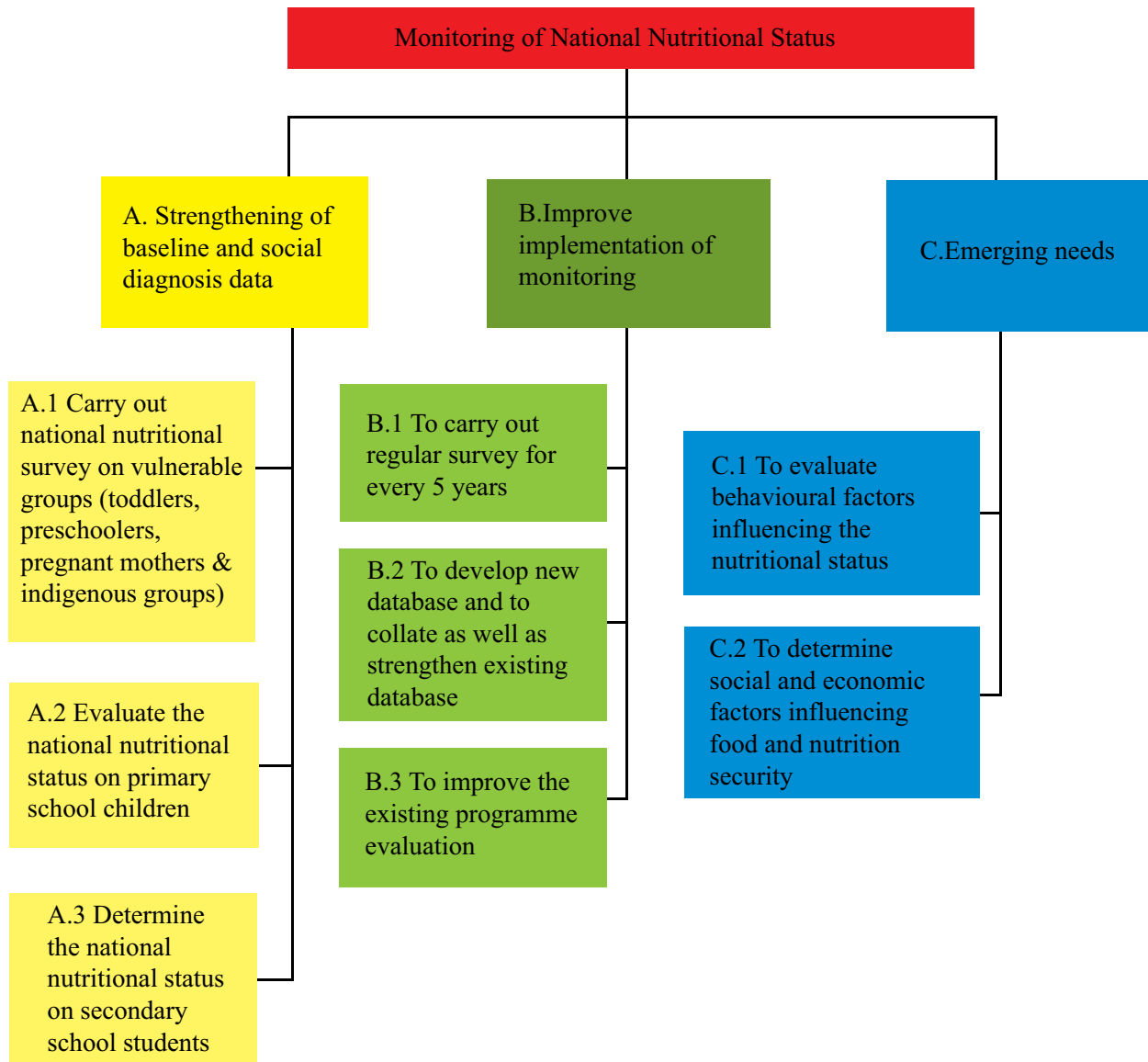


Figure 3.1: Purpose and scope of monitoring of national nutritional status



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### 3.3 Table of Nutrition Research Priority Area

The research priorities are presented in three tables. Table 3.1 presents the research purpose, scope, gaps and needs, rationale for priority ranking and the relative ranks of the research purpose. Table 3.2 presents the ranking criteria for suggested topics in each research purpose. Table 3.3 presents the relative ranks for suggested topics of each research purpose.

**Table 3.1: Purpose and scope of monitoring of national nutritional status**

Purpose	Research Scope	Research Gaps and Needs	Rationale for Priority Ranking	Suggested Topic and/or Explanatory Notes	Relative Rank (Purpose)
A. Strengthening of baseline and social diagnosis data	A.1 Carry out national nutritional survey on vulnerable groups (toddlers, preschoolers, pregnant mothers & indigenous group)	Lack of national level data for suggested groups :- Nutritional status consist of the following components <ul style="list-style-type: none"> <li>• food intake/ pattern</li> <li>• anthropometry</li> <li>• physical activity</li> <li>• biochemical</li> <li>• socio economics</li> </ul>	The baseline data important for needs assessment and decision making process (policies and programmes)  Food consumption statistics will be a pre-requisite to risk exposure and contamination.	A.1.1 National nutrition survey among toddlers and preschoolers A.1.2 National nutrition survey among elderly A.1.3 National nutrition survey among pregnant women A.1.4 National nutrition survey among indigenous group	2
	A.2 Evaluate the national nutritional status on primary school children	Total diet study to determine risk exposure to contaminants		A.2.1 National nutrition survey among primary school children	
	A.3 Determine the nutritional status on secondary school students			A.3.1 National nutrition survey among secondary school students	
B. Improve implementation of monitoring	B.1 To carry out regular survey for every 5 years	No database  No periodic survey	Ensuring proper planning, implementing, coordinating, monitoring and evaluation of the programmes and projects	B.1.1 National nutritional status survey among secondary school students for every 5 years	1
	B.2 To develop new database, collate and strengthen existing database	Less accessibility of some existing reports		B.1.2 National nutritional status survey among primary school children for every 5 years	
	B.3 To improve the existing programme evaluation			B.1.3 National nutritional status survey among adults and elderly for every 5 years	
				B.2.1 Development and evaluation of National Nutrition Data Bank	
				B.3.1 Development and evaluation of web based monitoring system	

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Purpose	Research Scope	Research Gaps and Needs	Rationale for Priority Ranking	Suggested Topic and/or Explanatory Notes	Relative Rank (Purpose)
C. Emerging needs	C.1 To evaluate behavioural factors influencing to nutritional status	No database on behavioural and economic factors	The baseline data important for need assessment and decision making process (policies and programmes).	C.1.1 Evaluation of risk behaviour and socio economic factors on food consumption	3
	C.2 To determine social and economic factors influencing food and nutrition security	No comprehensive data on food balance sheet		C.1.2 Determination of factors affecting the risk behaviour on dietary pattern and physical activity	
				C. 2.1 Evaluation of national study on food and nutrition security	



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**Table 3.2: Ranking criteria for suggested topics in each research purpose**

Research Scope	Suggested Topic and/or Explanatory Notes	Ranking Criteria (Score 1-10)*		Ranking Criteria (Score 1-7) - Choose Max. 2 Criteria *				Total Score	Relative Ranks
		Big Impact On Health Status and/or Delivery of Services	Great Public Health Significance	Capacity Strengthening	Gap In Knowledge/ Evidence that Necessitates Research	Feasibility, Practicality, Cost and Time	Importance for Client Satisfaction		
A. Strengthening of baseline and social diagnosis data	A.1.1 National nutrition survey among toddlers and preschoolers	8	8		7		7	30	3
	A.1.4 National nutrition survey among indigenous group	8	6		7		6	27	5
	A.3.1 National nutrition survey among secondary school students	8	8		7		7	30	3
B. Improve implementation on monitoring	B.2.1 Development and evaluation of National Nutrition Data Bank	9	9		7		7	32	1
	B.3.1 Development and evaluation of web based monitoring system	9	9		7		6	31	2
C. Emerging needs	C.1.1 Evaluation of risk behaviour and socio- economic factors on food consumption	8	8		7		6	29	4
	C.2.1 Evaluation of national study on food and nutrition security	8	8	6	7			29	4

\*1 = the lowest/ worst



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**Table 3.3: Relative ranks for suggested topics in each research purpose**

Research Scope	Suggested Topic and/or Explanatory Notes	Ranking Criteria (Score 1-10)*		Ranking Criteria (Score 1-7) - Choose Max. 2 Criteria *				Total Score	Relative Ranks
		Big Impact On Health Status and/or Delivery of Services	Great Public Health Significance	Capacity Strengthening	Gap In Knowledge/ Evidence that Necessitates Research	Feasibility, Practicality, Cost and Time	Importance for Client Satisfaction		
B. Improve implementation on monitoring	B.2.1 Development and evaluation of National Nutrition Data Bank	9	9		7		7	32	1
	B.3.1 Development and evaluation of web based monitoring system	9	9		7		6	31	2
A. Strengthening of baseline and social diagnosis data	A.3.1 National nutrition survey among secondary school students	8	8		7		7	30	3
	A.1.1 National nutrition survey among toddlers and preschoolers	8	8		7		7	30	3
C. Emerging needs	C.1.1 Evaluation of risk behaviour and socio- economic factors on food consumption	8	8		7		6	29	4
	C.2.1 Evaluation of national study on food and nutrition security	8	8	6	7			29	4
A. Strengthening of baseline and social diagnosis data	A.1.4 National nutrition survey among indigenous group	8	6		7		6	27	5

\*1 = the lowest/ worst

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### References

- Institute for Public Health (IPH) (1998): The Second National Health and Morbidity Survey (NHMS II) 1997, Nutritional Status. Ministry of Health, Malaysia.
- Institute for Public Health (IPH) (2008). The Third National Health and Morbidity Survey 2006: Nutritional Status (NHMS III), Ministry of Health, Malaysia. 112pp.
- Kasmini K, Idris MN, Fatimah A, Hanafiah S, Iran H & Asmah Bee MN (1997). Prevalence of overweight and obese children aged between 7 to 16 years amongst 3 major ethnic groups in Kuala Lumpur, Malaysia. *Asia Pac J Clin Nutr* 6:172-174.
- Malaysia NCD surveillance 2005/2006 (2006). NCD Risk factors in Malaysia. NCD Section, Disease Control Division, Ministry of Health, Malaysia.
- Ministry of Health Malaysia (2000). Nutritional status of children aged below 6 years in Malaysia. Unpublished report of a study conducted by Ministry of Health with the cooperation of UNICEF in 1999-2000.
- Ministry of Health (MOH) (2008). Seminar on Findings of the Malaysian Adult Nutrition Survey (MANS) 2003. Kuala Lumpur.
- Mohd Ismail MN, Norimah AK, Poh BK, Ruzita AT, Nik Mazlan M, Nik Shanita S, Roslee R & Nur Zakiah MS (2009). Nutritional status and dietary habits of primary school children in Peninsular Malaysia. Kuala Lumpur. 65pp.
- Moy FM, Gan CY & Sit Zaleha MK (2004). Body mass stature of school children and adolescents in Kuala Lumpur. *Asia Pac J Clin Nutr* 13:324-329.
- National Coordinating Committee on Food and Nutrition (NCCFN) (2006). National Plan of Action for Nutrition of Malaysia, Ministry of Health, Malaysia.
- Tee ES, Mohd Ismail MN, Mohd Nasir A & Khatijah I (1997). Nutrient composition of Malaysian foods. 4<sup>th</sup> Ed. Institute for Medical Research, Kuala Lumpur, Malaysia.