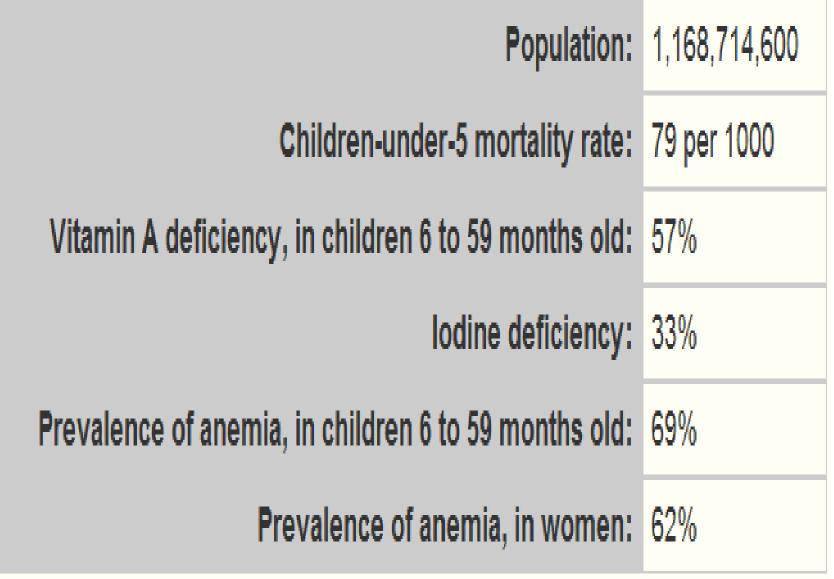


## **Presentation Outline**

- Product Description
  - Product Description/use
  - Product Formulation
  - Nutrient Bioavailability and its Interactions
  - Package, storage, shelf life, and price/cost
- Safety
  Hazard Analysis
  Home Usage
- Impacts
  - Culture Appropriateness

# Product Background: India's country profile



## **Product Description/use**



•Nutri-candy is a hard-boiled candy developed by the Micronutrient Initiative.

•The candy is fortified with multiple micronutrients, which are vitamin A and C, folic acid, and Iron.

## **Product Description/use**

<u>Target region</u>: India <u>Target population</u>: 2-6 yr old children, adolescent girls, pregnant and lactating women

**Objectives:** 

- to improve micronutrient status in the target population
- to promote the attendance of beneficiaries at the supplementary feeding centres

## **Product Formulation**

prepare the ingredients (sucrose, citric acids, and fortificants) mix together the ingredients boil the mixture until the desired temperature has been reached ( $160^{\circ}$  C) cool shape

## Nutrient Bioavailability and its Interactions:

Nutritional content of nutri-candy

Nutrients	Levels per 3 gram lozeng	ge

- Vitamin A 500 IU
- Vitamin C 10 mg
- Folic acid 50 mcg

Iron 7 mg

## Nutrient Bioavailability and its Interactions:

- Vitamin A: inadequate bioavailability
- Iron: affected by diets
  - phytates ↓ iron bioavailability by binding to iron to form insoluble complexes
    phenolic compounds:
- Folic acid: not readily available in cereal-based diets

# Package, storage, shelf life, and price/cost

- Storage: avoid contact with sunlight or heat.
- Packaging: high density poly-ethylene bags which can withstand higher temperatures
- Nutri-candy has a shelf life of at least 6 months
- •Cost: 0.4 cents of USD/candy

## **Hazard Analysis**

Two important properties of hard-candies:

- Clarity or transparency for attraction
- A minimal tendency to absorb water from the air
  - Difficulty in separating candy & wrapper
  - Dental caries

#### Home use:



Safety hazards:

 tooth decay or dental caries

Solution: children should only receive 1 candy/day and be educated with proper oral hygiene

 toxicity effects: highly unlikely

## **Culture Appropriateness**

 India: emphasize on home/family cooking using traditional and fresh ingredients.

 Fortification of centrally processed foods: may not be as effective

•No changes in diets or lifestyle.



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