



# **Fish for Nutritional Gains: Examples of Partnerships & Support for Government Policies & Programs to achieve SDG-2**

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# Agenda

1. Why Fish based Diet in First 1000 Days of Human Life?
2. Government Public Nourishment Programs for Impacts at Scale
3. Partnerships and Convergence for Accelerated Transformation
4. Examples of Successful Partnerships & Convergence
5. Exposures and Brainstorming sessions for sharing of learnings on Nutrition-sensitive approaches
6. Fish and Fish Based Products Promoted by CGIAR-WorldFish
7. Inclusion of Fish in Government Nutrition Policy & Programs
  - a) Fish Powder in Hot Cooked Meals of Kinder Garten Children
  - b) Dried Small Fish Packets in Take Home Rations for Pregnant & Nursing Mothers and Adolescent Girls
  - c) Fresh Small Fish for Community level Nourishment
8. Feasibility of Fish in School Feeding Program in Timor Leste
9. Conclusion



# Inclusion of Fish in diet of “First 1000 Day” of Human Life is an effective route to reduce micronutrient deficiencies

## “Hidden Hunger”

### Minerals

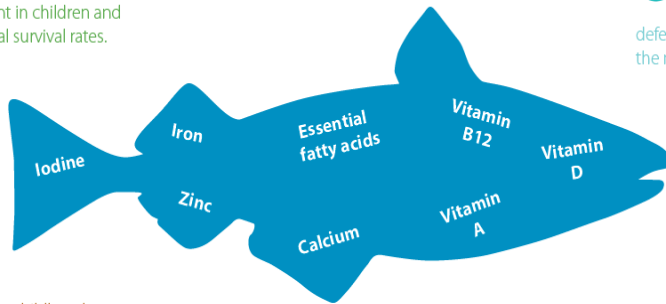
**Fe** **Iron**  
essential for brain development in children and increases maternal survival rates.

**I** **Iodine**  
essential for brain development in fetus and young children and helps prevent stillbirth.

**Zn** **Zinc**  
crucial for childhood survival, reduces stunting in children and fights diarrhea.

### Essential fatty acids

help prevent preeclampsia, preterm delivery, low birth weight, and support cognitive development and better vision in children.



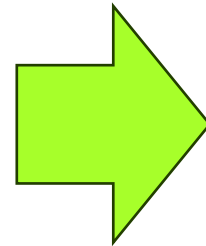
**Ca** **Calcium**  
helps prevent preeclampsia and preterm delivery, and is essential for strong bones and teeth.

**A** **Vitamin A**  
essential for childhood survival, prevents blindness, helps fight infections and promotes healthy growth.

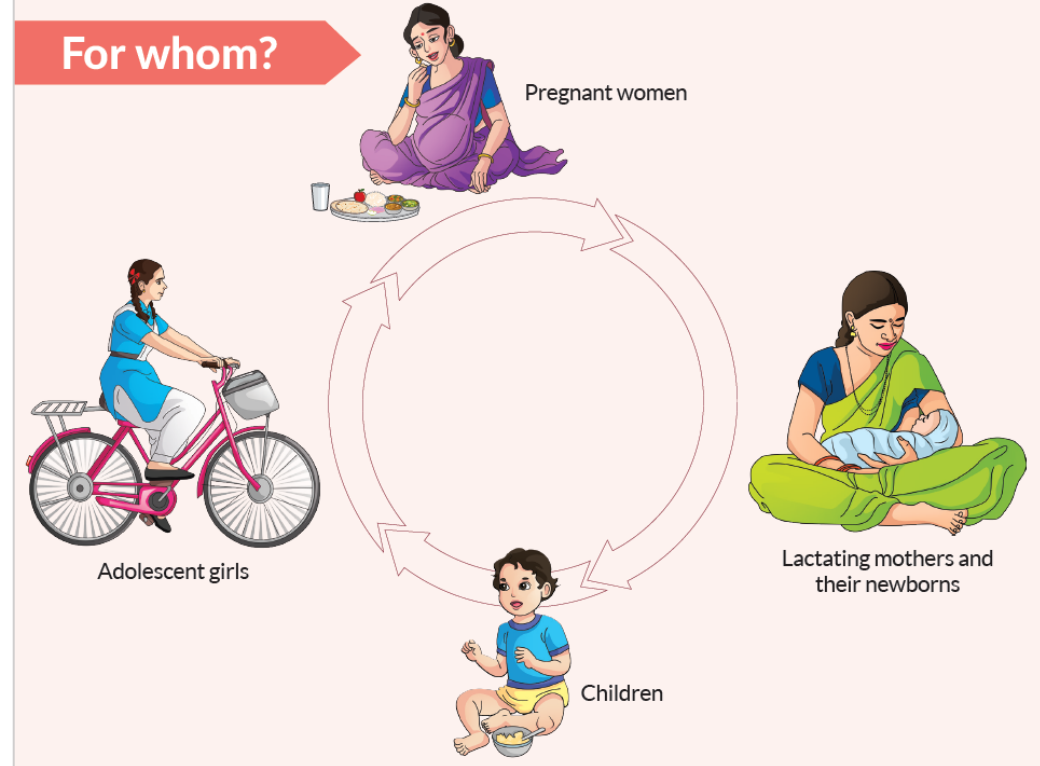
### Vitamins

**B12** **Vitamin B12**  
essential for a healthy pregnancy; helps prevent brain and spinal cord birth defects, and supports healthy maintenance of the nervous system and brain in children.

**D** **Vitamin D**  
essential for the development of strong, healthy bones, teeth and muscles in children and helps prevent preeclampsia, preterm delivery and low birth weight.



### For whom?



# Existing Government Public Nourishment Program gives Quick Access for Scaling and Impacts

- Integrated Child Development Services (ICDS), Government of India
  - Pregnant and Nursing Women – *Take Home Ration*
  - Adolescent Girls – *Take Home Ration*
  - Pre-school Children (3-6 Year age group) – *Hot Cooked Meals*
- School Meal Program in India, Timor Leste etc (6-15 Year Age Group) – *Hot Cooked Meals*
- Community level nutrition awareness programs in India, Bangladesh, Cambodia, Malawi, Zambia etc – *Home Cooking Recipes*



# Partnerships and Convergence for Accelerated Transformation

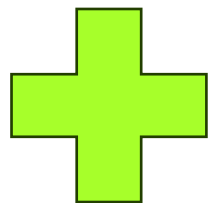


## Partnerships

Among

- People
- Communities
- Institutes
- Donors (Bilateral, Multilateral, Philanthropies, Private sector etc)
- Government

For **concerted actions** at all levels for evidence building & supporting Government

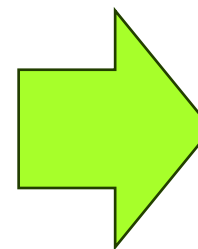


## Convergence

Among

- Government Departments / Ministries

For widely accepted & impactful **policies and programs / schemes**



## Accelerated Transformation

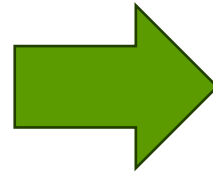
By

- **Leveraging** resources & strengths from each partner
- **Unlocking** the Giant Potential among everyone

# Examples of Partnerships & Government Support provided by CGIAR-WorldFish for Impacts at Scale

## Leveraging Resources through Partnerships for Evidence Building

(Pilots / Demonstrations / Exposure visits / Awareness / Desktop Research)



## Unlocking Giant Potential of Government through Public Policies & Programs

(Inter-Ministerial Convergence, Government Budget, Annual Action Plans, Monitoring, Evaluation & Reporting)

### CGIAR Trust Fund

(Contributed by various Governments and donors)

### Bilateral Donors & Philanthropies

(Local Govt., ICAR, USAID, GIZ, BMGF etc)

### Multilateral Agencies

(World Bank, IFAD etc)

### Private Sector

(Corporate Social Responsibility Fund)

### 1000 Days Approach

(Pregnant and Nursing Mothers and Adolescent Girls)- Take Home Ration

### Pre-school Nourishment in Kinder Gartens

(ICDS Hot Cooked Meals)

### School Mid-Day Meals

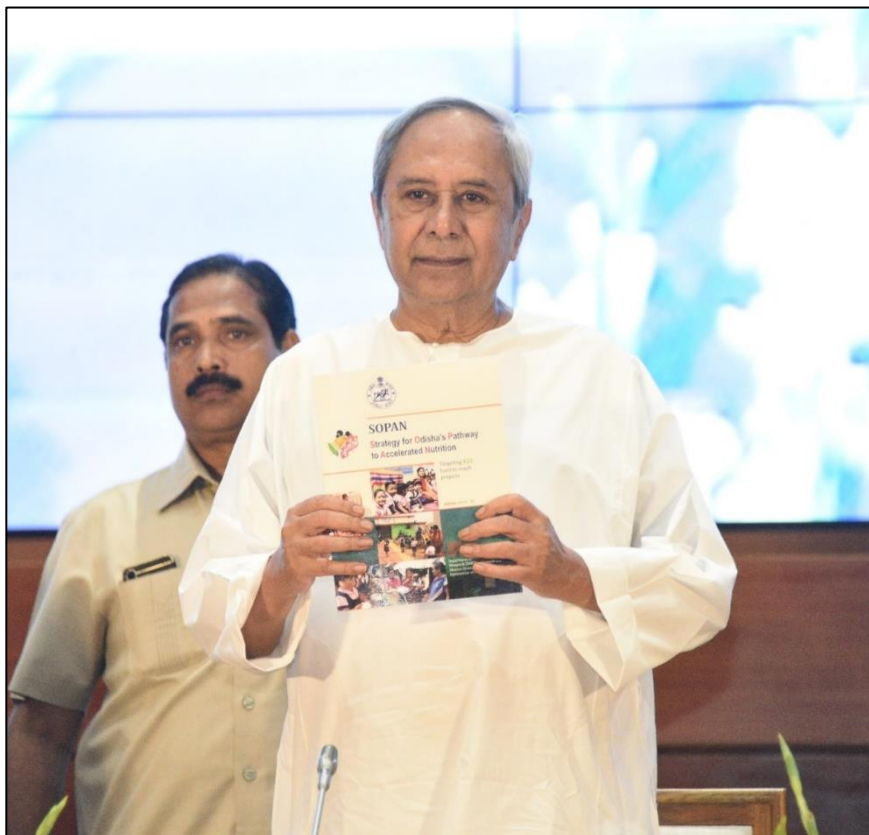
### Community level

(Mass awareness campaigns, Trainings to Community development workers, NGOs etc)

# Exposures and Brainstorming Sessions for Sharing Learnings on Benefits of Nutrition-sensitive Approaches



# Inclusion of Fish in State Nutrition Policy – SOPAN 2020-2025 of Odisha State, India



## Standard Operating Procedure for Inclusion of Fish in Pre-school Meals

**MoU with WorldFish for fish based nutrition**

**About the collaboration**

- 5-year technical collaboration with World Fish for pilot and scale up the inclusion of fish based product in Supplementary Nutrition Programme
- Pilot project in 50 AWCs in Mayurbhanj district
- Odisha being a fish loving state could get benefit from introduction of fish, which is rich in iron, zinc, calcium, vitamins (A/ B / D /E), Omega-3 fatty acids etc in SNP

**Key features**

- Training and empowerment of Women Self Help Groups (WSHG) on nutrition-sensitive fish production systems
- Exposure and capacity building on inclusion of fish for nutritional benefits
- Creation of awareness on benefits of fish-based nutrition
- Building evidence, documentation of various activities and outcomes of the program



**ଅଓଡ଼ିଶାରେ ମାଛର ପରିଚାଳନା ପ୍ରଣାଳୀ**  
 ଉନ୍ନତ ଶିକ୍ଷା ଓ ସ୍ୱାସ୍ଥ୍ୟ ସୁଧାର ପ୍ରସଙ୍ଗରେ ମାଛର ଉପଯୋଗ  
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 Standard Operating Procedure  
 Inclusion of Small Fish in Supplementary Nutrition Programme (SNP)  
 Pilot Study in Odisha, India

#Malnutrition free Odisha



# Fish & Fish Based Products Promoted under the Program

## Small Fish (Fresh Fish)

Marine, River, Farmed in Ponds  
*For Household Consumption*



Nutrition-sensitive  
Carp-Mola Polyculture in Ponds

## Dried Small Fish

Marine or River sourced  
*For Mothers & Adolescent Girls*



Dried Small Fish packets in  
Take Home Ration

45 grams/day/adult;  
3 days a week

## Small Fish Powder

Marine or River sourced  
*For Children*



Small Fish Powder used in  
Hot Cooked Meal

8 grams/day/child,  
5 days a week

# Programs for Piloting & Scaling Fish Based Nutrition in Odisha State, India



## Convergence Program Involving 4 line Government Departments

### 1. Inclusion of Fish Based Nutrition in ICDS Anganwadi centers under State Nutrition Plan (2020)

- Convergence among Departments of Fisheries, Women & Child Development with additional support from ICAR-CIFT & MS Swaminathan Research Foundation
- Successful pilot of Inclusion of Fish in meals of 50 Anganwadis in tribal Mayurbhanj District for 6 months
  - 1200 kids nourished on Hot Cooked Meals blended with Fish Powder twice a week
  - 800 Pregnant and Nursing Women nourished on dried small fish distributed through Take Home Ration
- 5-year Action Plan with budget for scaling the Fish based nutrition to 125 Aspiring Sub-districts ready



### 2. Long-term Leasing of Gram Panchayat tanks to Women Self Help Groups for Fish Farming (2018)

- Convergence of 3 Departments: Fisheries, Mission Shakti (Women Empowerment) & Panchayati Raj
- Nutrition-sensitive Carp-Mola Polyculture
- So far >30,000 village water tanks leased out to SHGs (>300,000 women benefited)



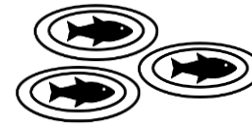
### 3. Production and Marketing of Food Safety Certified Solar Dried Fish by Women Self Help Groups (2024)

- Convergence of 2 Departments: Fisheries, Mission Shakti (Women Empowerment)



# Timor Leste: Estimated annual fish requirements for the PME

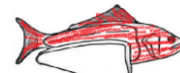


## Based on 1 meal of fish per week for every student



Quantity of WHOLE fish required depends on processing method & associated waste:



	Number of students (2021)	KG fish per student per year (raw edible weight)	Total TONNES of cleaned fish per year (raw edible weight)
PE Pre-school	25,679	2.0 kg	52 tonnes
EB Primary	288,504	2.7 kg	779 tonnes
<b>Total</b>	<b>314,183</b>		<b>831 tonnes</b>

Processing method	Estimated total TONNES of whole fish per year (raw whole weight)	% total national production
Fillet only 	<b>2,077 tonnes</b>	28%
Edible flesh 	<b>1,385 tonnes</b>	19%
Include bones 	<b>923 tonnes</b>	12%

Assumptions:

Number of students (2021) from [MoE Statistics](#).

Based on PME Manual 2023:

- PE students (3 – 5 years old) receive 45 g fish / meal
- EB students (6 – 15 years old) receive 60 g fish / meal.

Approx. 45 weeks in school year = 45 fish meals per student per year.

National production (marine + aquaculture): ~7450 tonnes per year.

Conversion from whole to raw edible weight uses proportions ('Edible coefficients') of 0.9, 0.6 and 0.4 for 'Include bones', 'Edible flesh' & 'Fillet only' respectively based on WorldFish and FAO sources.

# Participation of Community and Government officials at all levels from the beginning is key to the success & sustenance



# Conclusion

- ✓ **Partnerships and Convergence** are the essential ingredients for achieving large scale changes or transformation at State, National and Global level. They leverage the resources and unlock the giant potentials.
- ✓ Building successful partnerships needs **long-term, open minded and patient approach**. It's a worthy investment by any agency / organization to yield sustained dividends in the form of impacts at large scale.
- ✓ Strong **bridging** between Research Institutes and Government Development Departments is required to influence the Policies and Programs of the Government. Proper **skill sets and proactiveness** are required at both sides to bridge the gap.
- ✓ **Participation of Community and Government officials** in all stages from the beginning is required for **success and sustenance**.



# Thank You!

