Food Security in India

Integrative Supply Chain Innovations Using ICT

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N. Viswanadham

Indian Institute of science

Bangalore- 560012, India

n.viswanadham@gmail.com

Our Focus

- Data shows current implementations are faulty.

- We present solutions to Two issues
  - Nutritious Food Delivery
  - Location of warehouses

What Is Food Security?

- The **World Food Summit of 1996** defined food security as existing *"when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life".*

- Thus food security implies both physical and economic access to food that meets their dietary needs and food preferences.
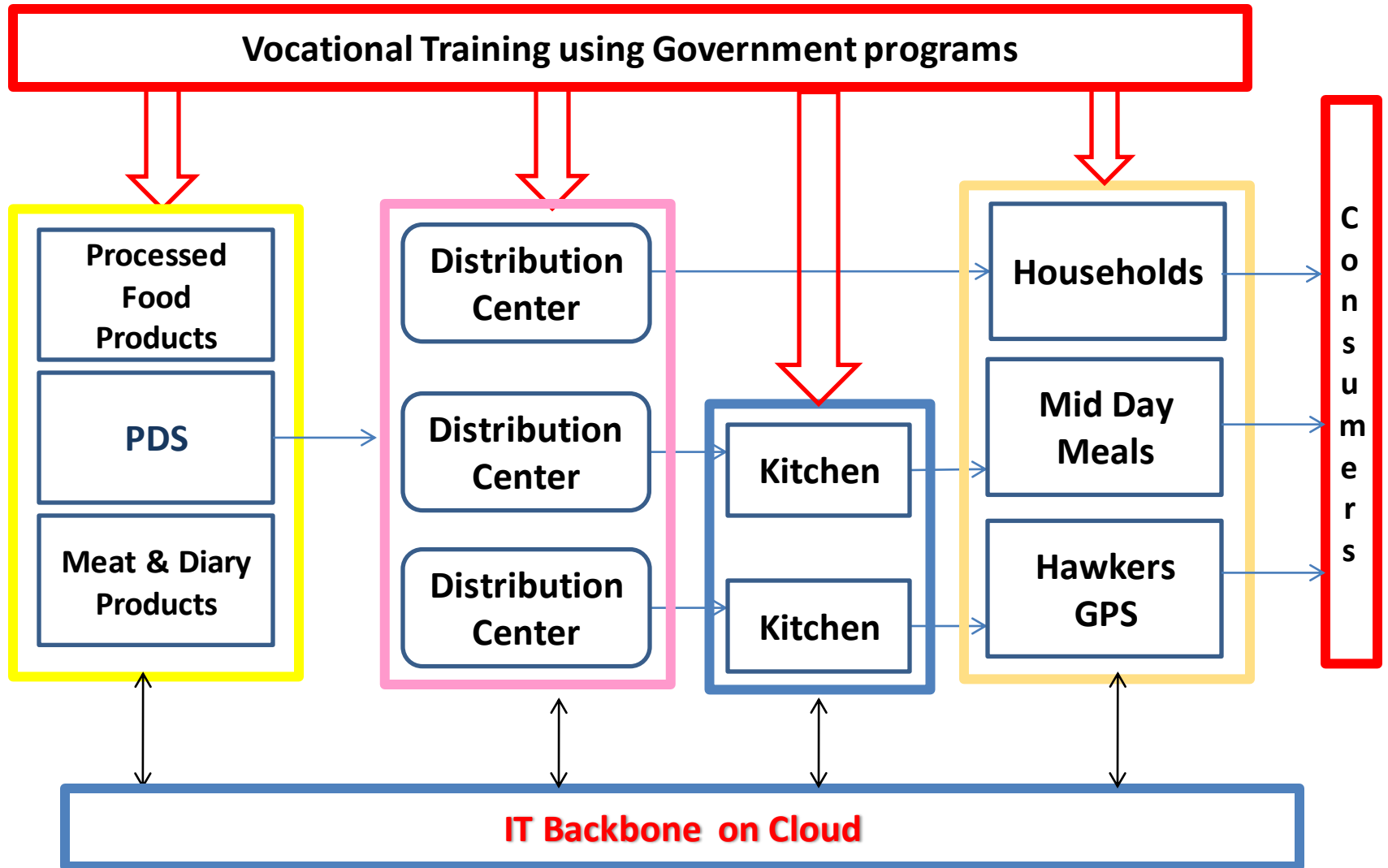
Current Efforts by the Government and NGOs

- The Government of India has launched several initiatives towards **ensuring food security** to its citizens. These include
  - Public distribution scheme
  - The mid day meal program for school children
  - National rural employment scheme (NREGAS)
  - Food security Bill Just approved by Union Cabinet
- Millions of hawkers in all major cities are self employed and serve the needy cause of Urban poor
- Akshaya Patra reaches out to 1,281,664 children in 8,208 schools in 18 locations across 8 states of India, providing them with freshly cooked meal packed in stainless steel containers. Other efforts exist in the states of Andhra Pradesh and Tamil Nadu
- 7000 warehouses are used for storage
- *High impact food security solution serving millions & generating millions of jobs is possible if we organize all these efforts as an Effective food security supply chain and execute this using ICT*
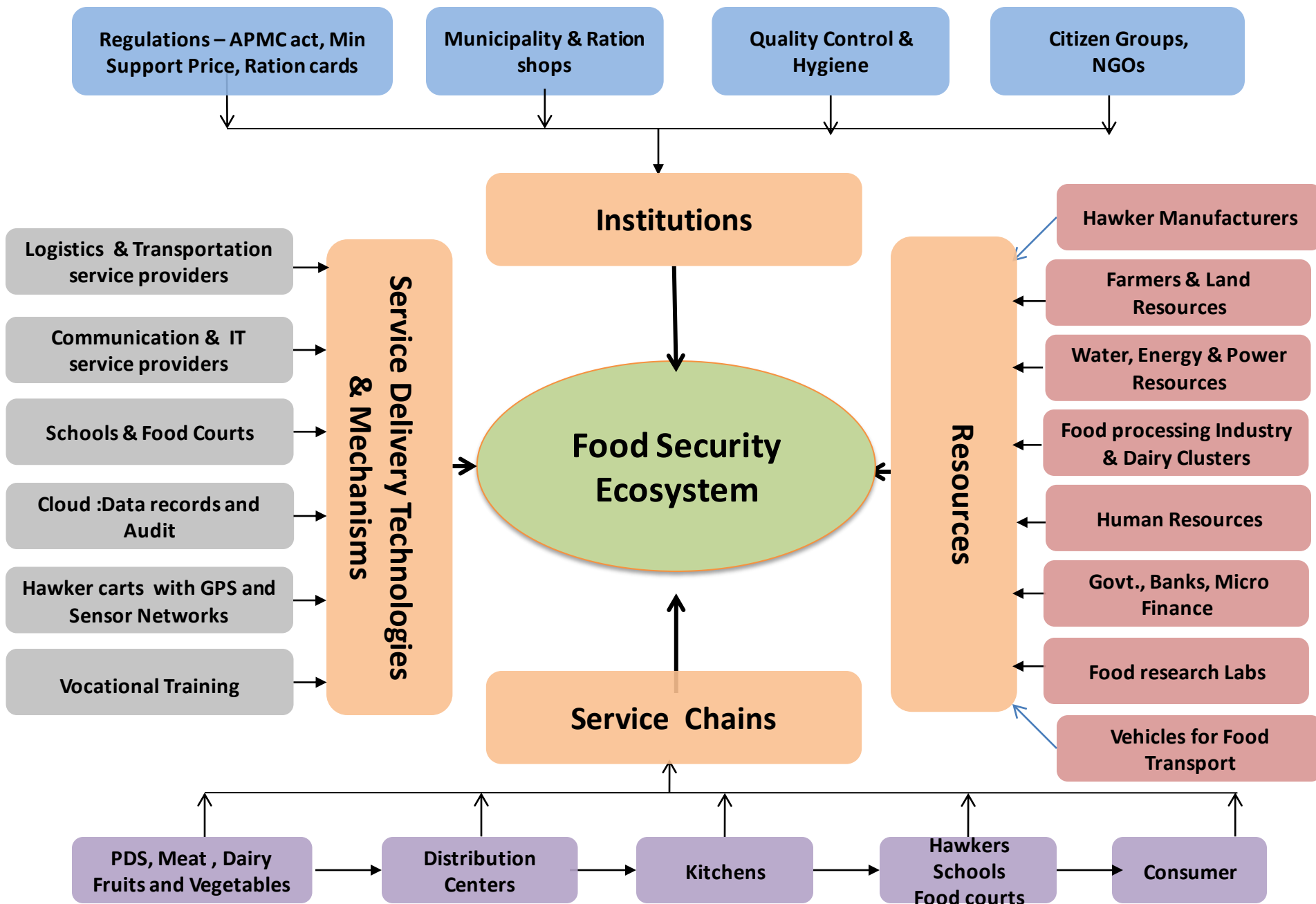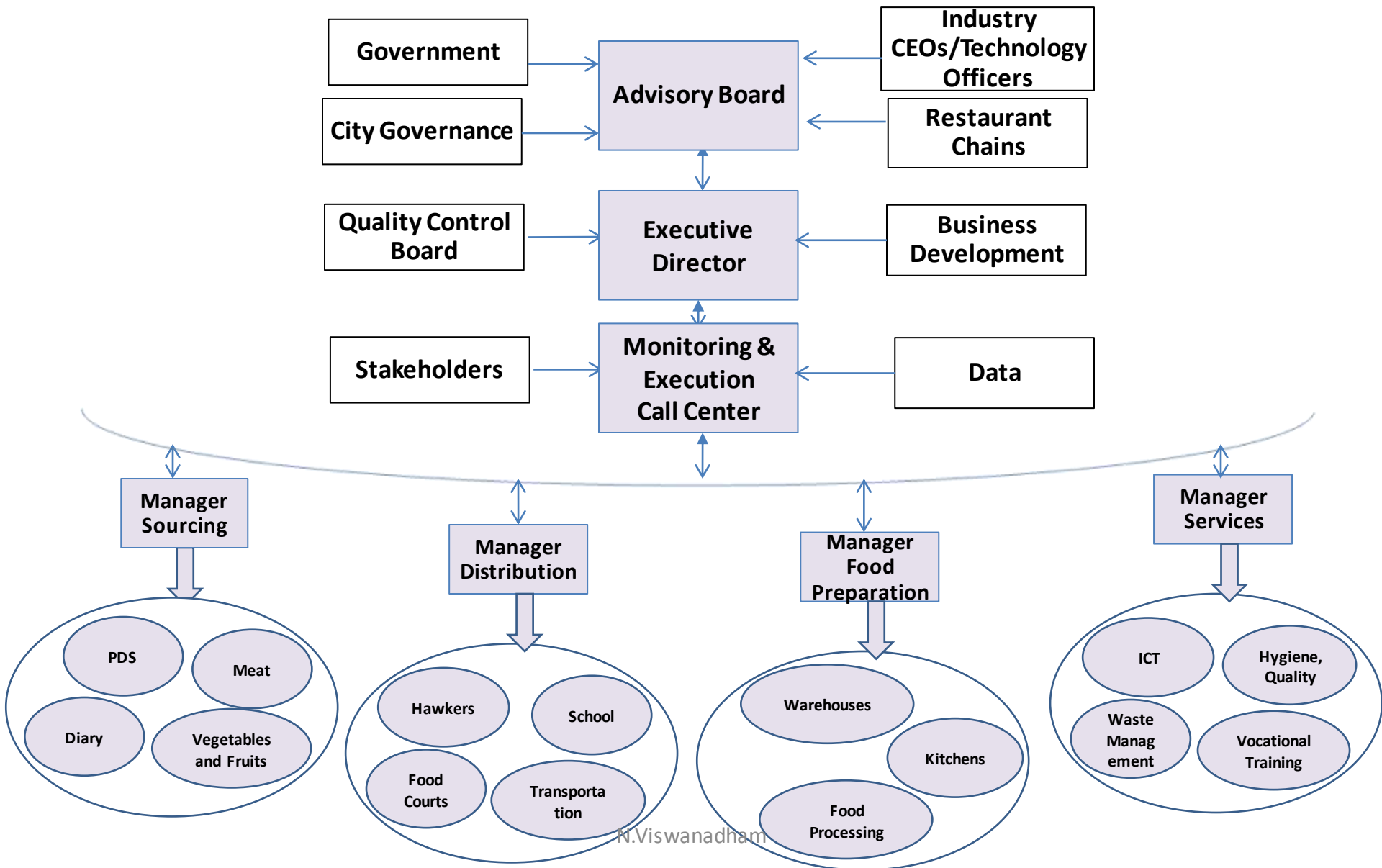
The Plough-Plate Food Supply Chain

• The supply chain /social network involves farmers, seed producers, fertilizer factories, financial institutions, millers, government, warehouses, fair price shops, retail shops, railways, truck transport companies, etc.

• **Does anyone orchestrate the relationship among all the actors**

Food Security : To Serve 100M Urban Poor

Vocational Training using Government programs

Processed Food Products	Distribution Center		Households	C o n s u m e r s
PDS	Distribution Center	Kitchen	Mid Day Meals	
Meat & Diary Products	Distribution Center	Kitchen	Hawkers GPS	

IT Backbone on Cloud

N.Viswanadham

Institutions

Regulations – APMC act, Min Support Price, Ration cards

Municipality & Ration shops

Quality Control & Hygiene

Citizen Groups, NGOs

Service Delivery Technologies & Mechanisms

Logistics & Transportation service providers

Communication & IT service providers

Schools & Food Courts

Cloud :Data records and Audit

Hawker carts with GPS and Sensor Networks

Vocational Training

Food Security Ecosystem

Resources

Hawker Manufacturers

Farmers & Land Resources

Water, Energy & Power Resources

Food processing Industry & Dairy Clusters

Human Resources

Govt., Banks, Micro Finance

Food research Labs

Vehicles for Food Transport

Service Chains

PDS, Meat , Dairy Fruits and Vegetables

Distribution Centers

Kitchens

Hawkers Schools Food courts

Consumer

Governance of Food Security System

Conclusions

- Our suggestion is streamlined execution of food security chain for urban poor which is a ***business network made smart*** using GPS, RFID, UID, Sensor networks, mobile, call centers etc.

- For Rural poor district-wise distribution centers and kitchen with MacDonald's type outlets or Food courts may be a good solution.

- Warehouse locations should be based on population statistics and location specific needs

- Brainstorming and discussions with stakeholders would certainly lead to an ***Executable Food security system*** to replace the currently corruption ridden inefficient system