CGIAR

RESEARCH
PROGRAM ON
Livestock and Fish

More meat, milk and fish by and for the poor

CGIAR Research Program

Livestock and Fish II

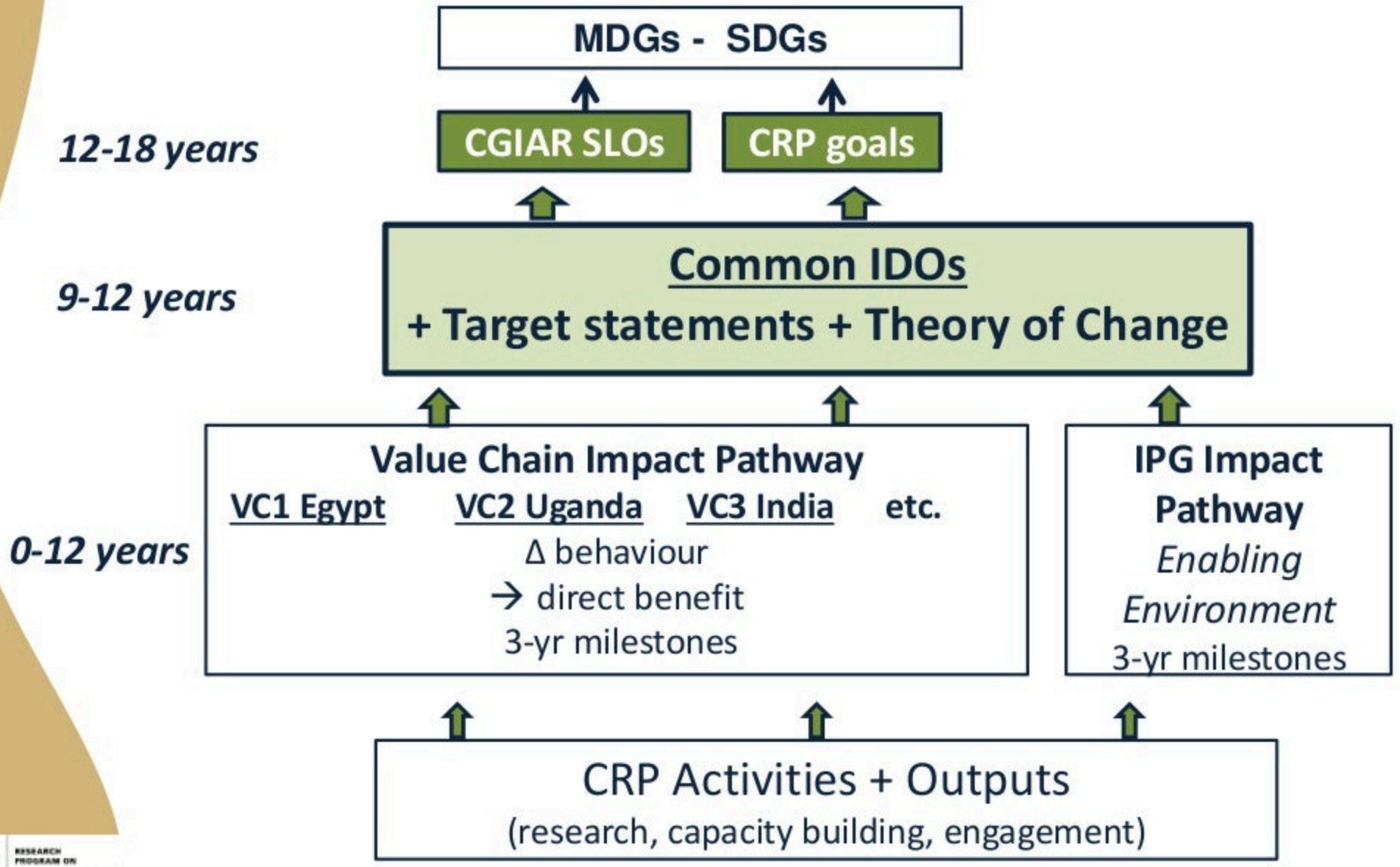
ICARDA

WorldFish

ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE

CIAT

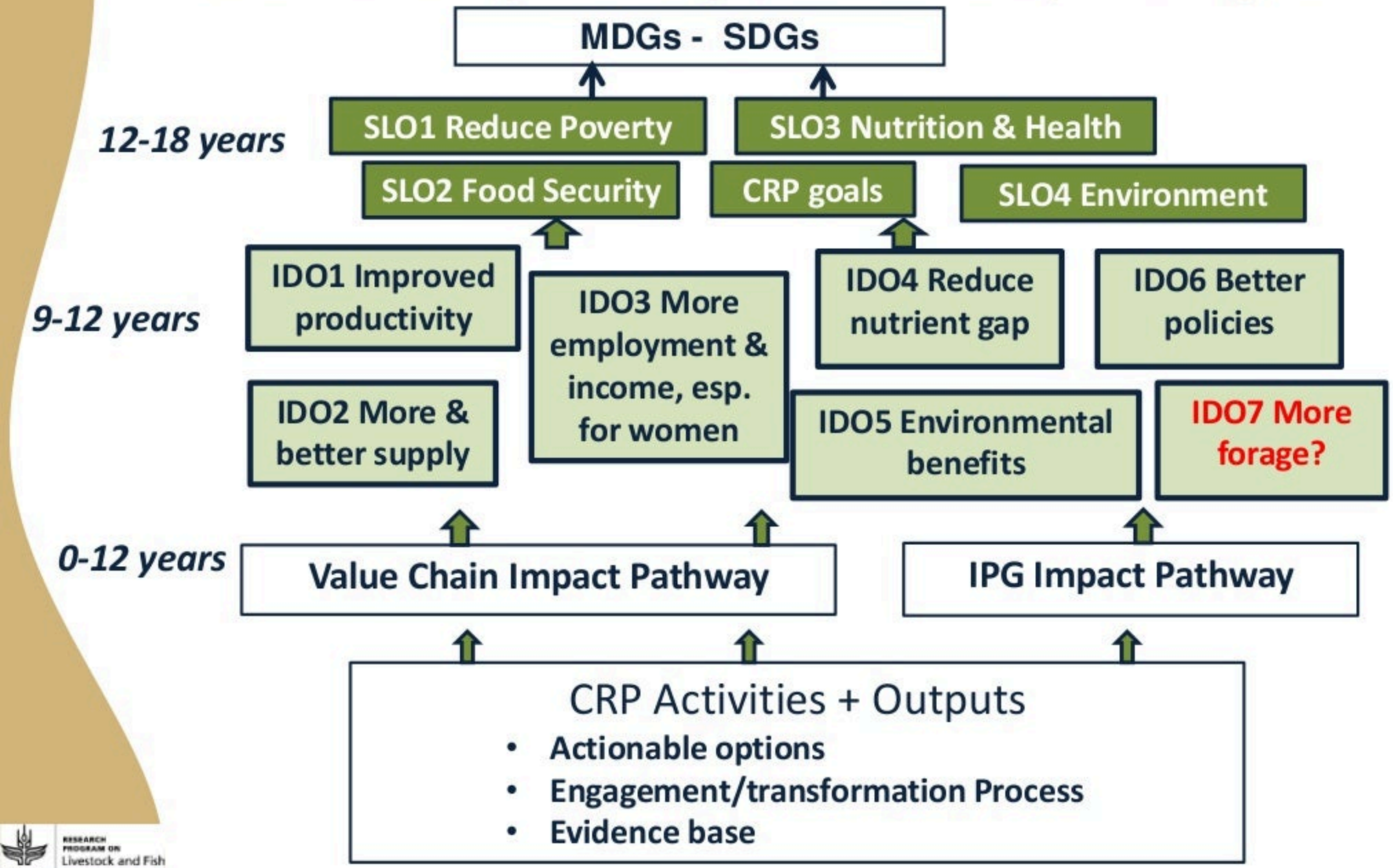
Research outputs to global development goals



Common IDOs across CRPs

- **Productivity (crop/system/ food system)**
- **Food security**
- **Nutrition and Health**
- **Income**
- **Gender**
- Capacity to innovate
- Risk Management (adaptive capacity)
- **Policies – enabling environment/ institutions**
- **Environment**
- Future Options
- Climate

Research outputs to global development goals

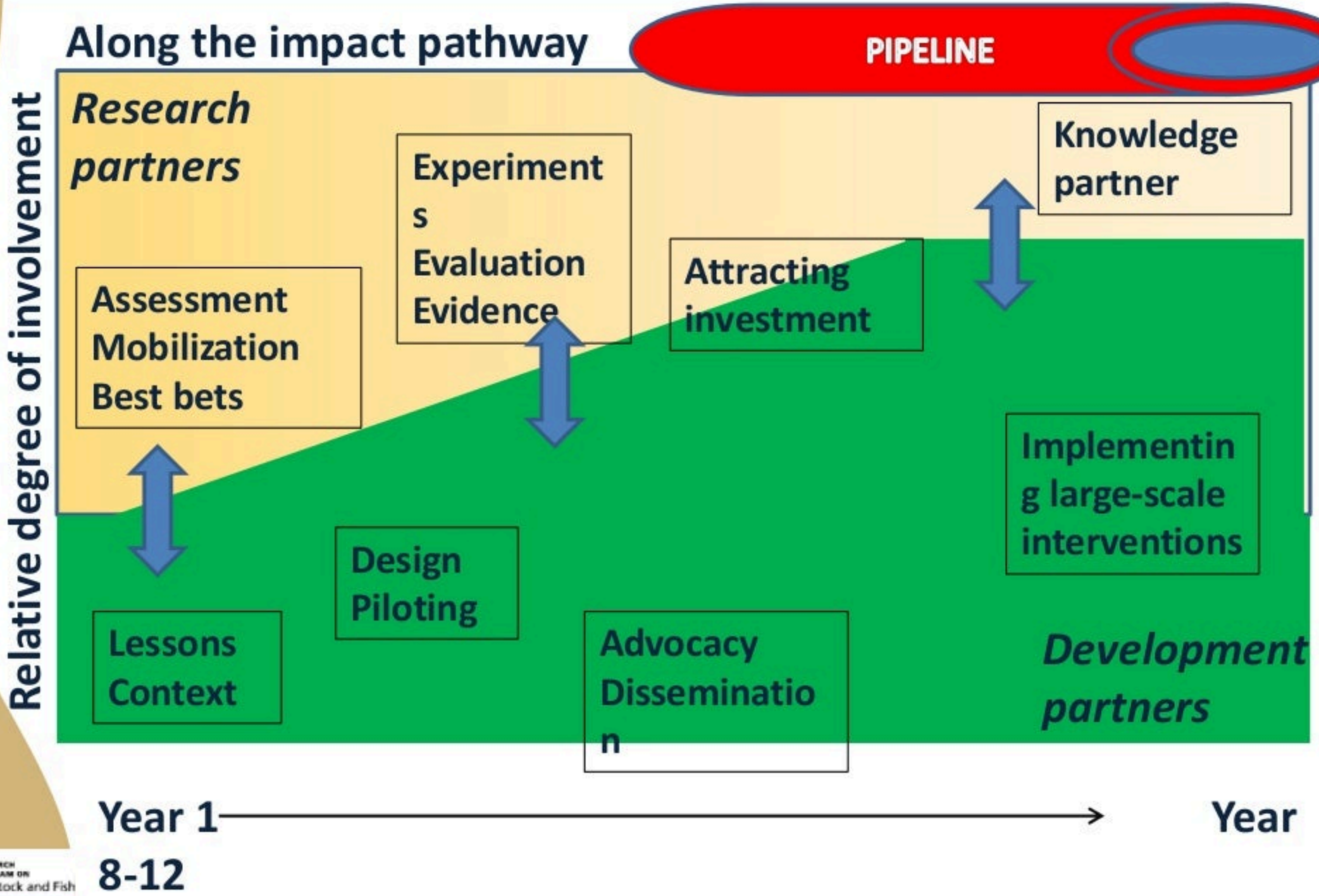


CGIAR RESEARCH PROGRAM ON Livestock and Fish

Theory of Change assumptions

- **Addressing whole value chain will improve relevance, uptake and effectiveness of innovations.**
- Focus and targeting will increase efficiency and the probability of achieving proof at scale.
- Implementation of demand-driven innovations in the right value chains with the right partners will accelerate the program's progress towards achieving outcomes and impact.
- **A significant number of pre-commercial smallholders can become market-oriented and intensify production sustainably.**
- Pro-poor value chains can compete and generate sufficient incentives to promote investment in intensification.
- The poor rely on animal-source food produced locally by smallholders and from less formal marketing channels.
- **The poor will consume more ASF if availability, access and affordability of products improve from those systems.**
- Increased and equitable consumption of ASF will improve nutrition and health.

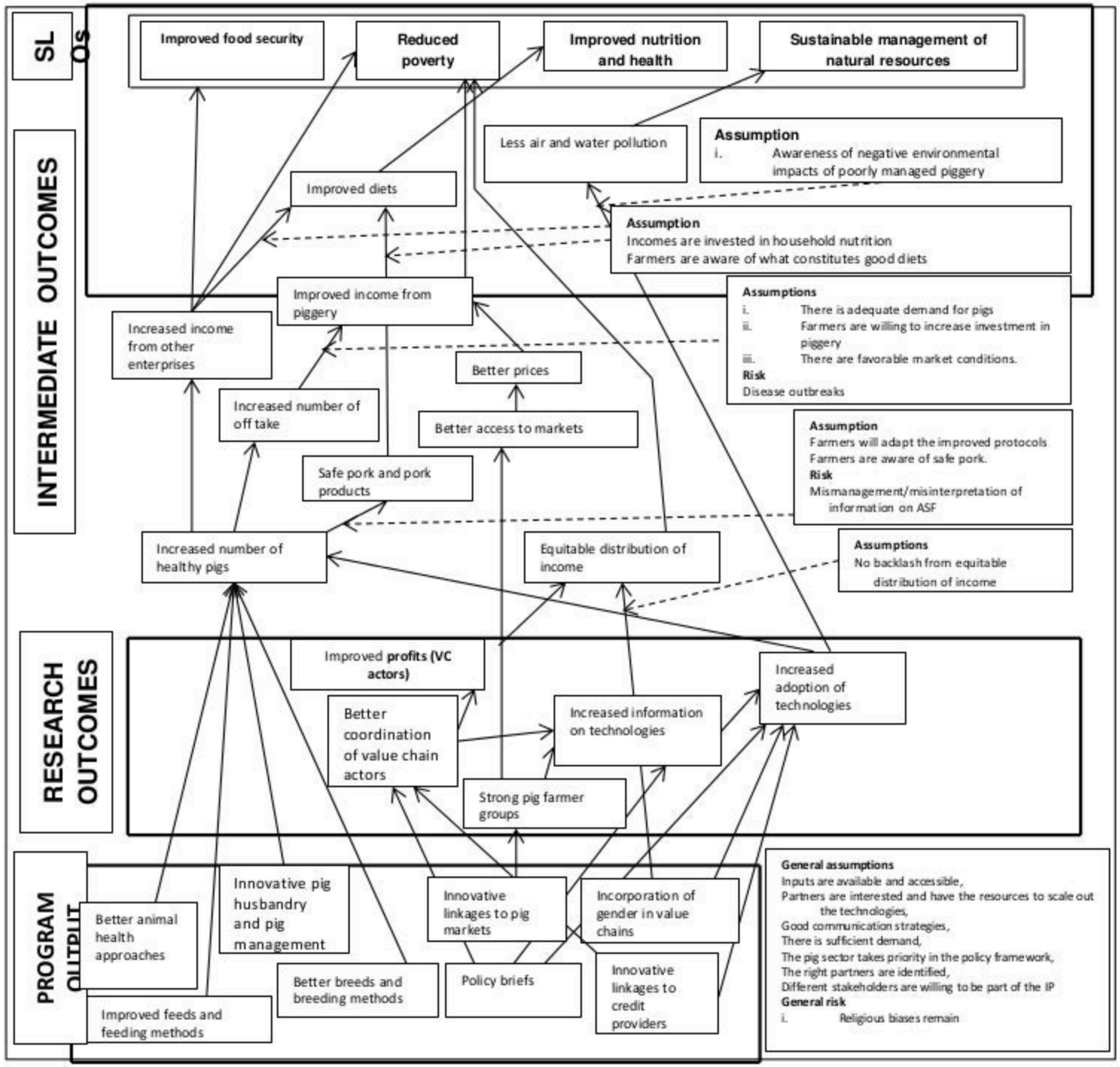
Our engagement in a value chain embodies our impact pathway



Program horizon in a target value chain

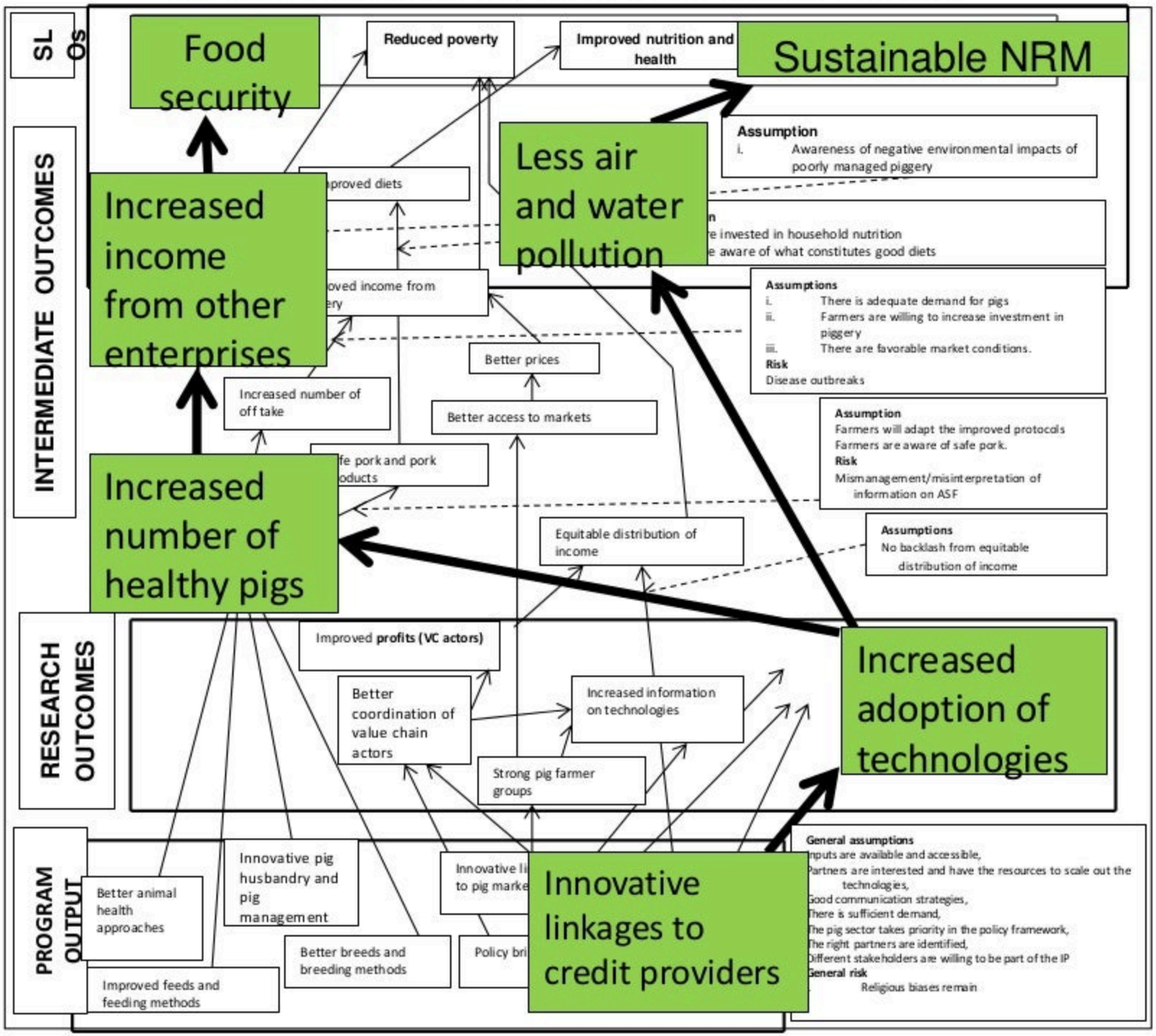
Uganda Smallholder Pig Value Chain Impact Pathway

Participatory Impact Pathways Analysis



CGIAR RESEARCH PROGRAM ON Livestock and Fish

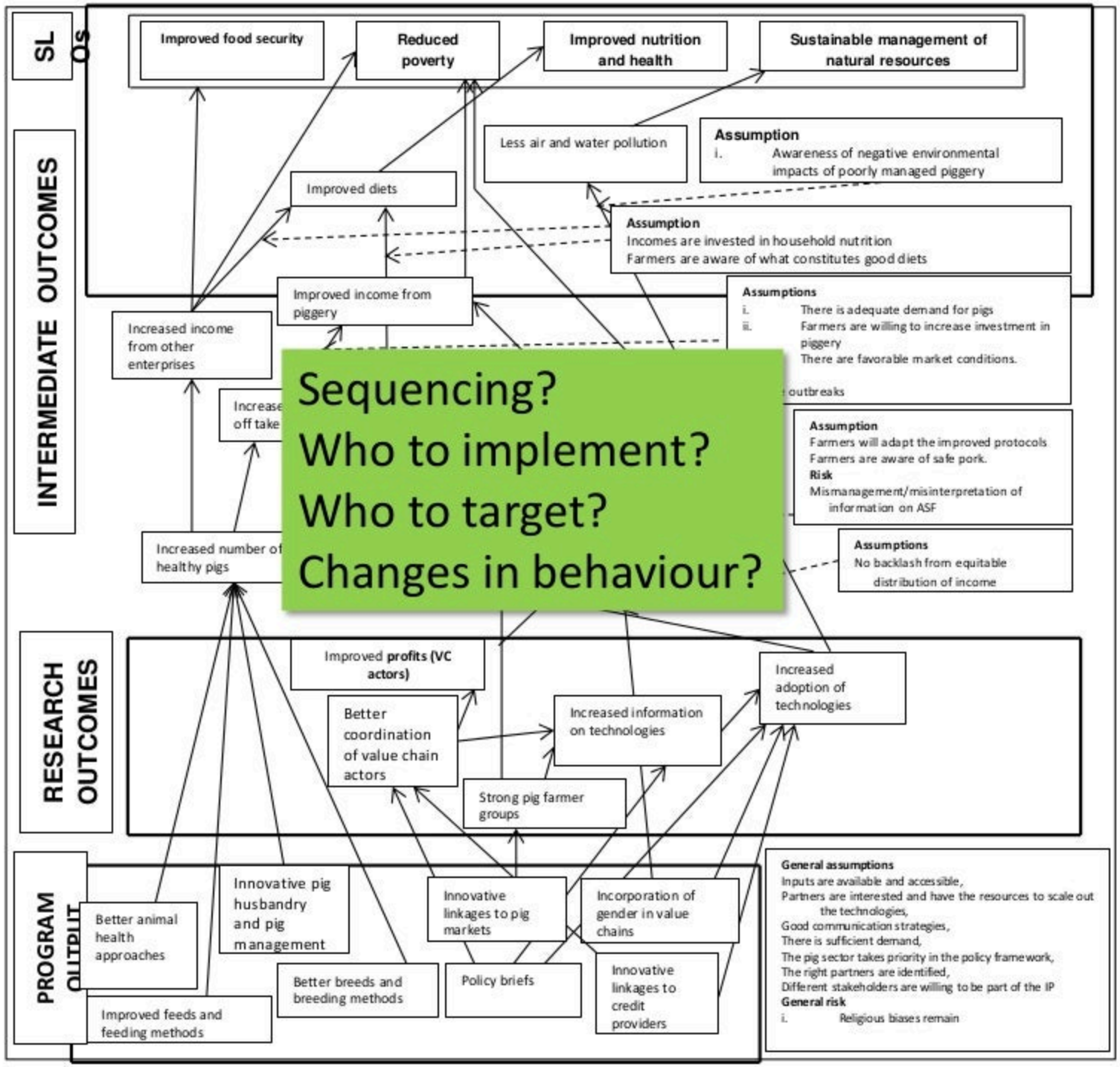
Uganda Smallholder Pig Value Chain Impact Pathway



CGIAR RESEARCH PROGRAM ON Livestock and Fish

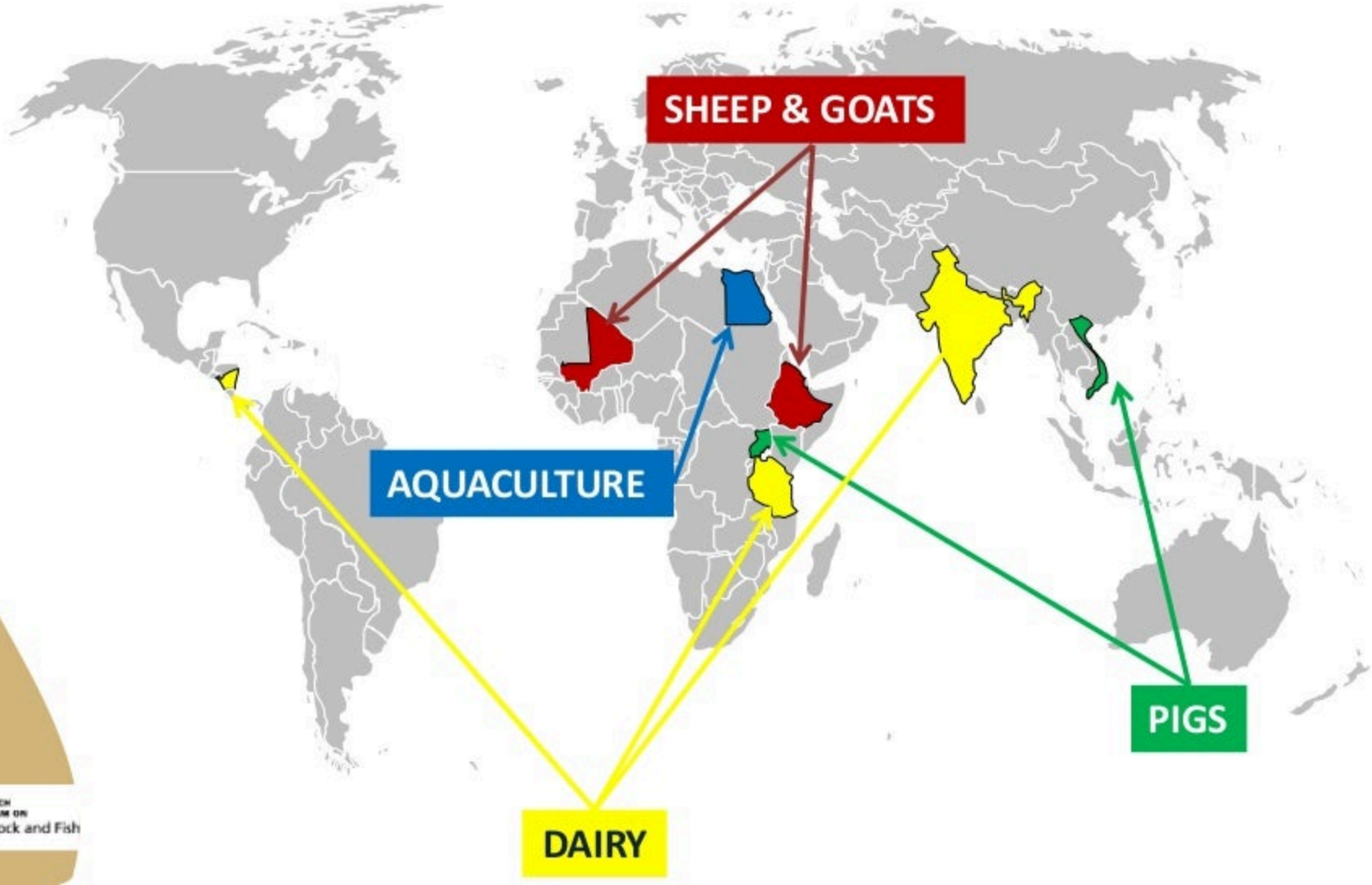
Uganda Smallholder Pig Value Chain Impact Pathway

Participatory Impact Pathways Analysis



Exploiting opportunities to prepare regional scaling-out

Comment on 'Focus, focus, focus'



Intermediate Development Outcomes (IDOs)

IDO	Metrics
1. Increased livestock and fish productivity in small-scale production systems for the target commodities (SLO1 and SLO2)	• Uganda and Vietnam – yields / animal of pig meat; percentage pig mortality; • Ethiopia and Mali – yields of small ruminant meat; flock mortality; kidding rate; • Tanzania and India – dairy yields per animal; • Egypt and Bangladesh – fish yields per hectare; • Nicaragua – beef and dairy yields per animal and per hectare
2. Increased quantity and improved quality of the target commodity supplied from the target small-scale production and marketing systems (SLO1 and SLO2)	• Quantity, by commodity yields per animal and per unit of land or time, stratified by target systems • Market-level volume • Quality by real unit prices

Intermediate Development Outcomes (IDOs)

IDO	Metrics
3. Increased employment and income for low income actors in the target value chains, with an increased share of employment for and income controlled by low-income women (SLO1 and SLO3)	• **Increased income** among poor people, disaggregated by sex and age. • **Higher share of women reporting greater control of income f**rom value chain participation. • **Increased employment** in the target value chains, disaggregated by sex, age and poverty status.
4. Increase consumption of the target commodity responsible for filling a larger share of the nutrient gap for the poor, particularly for nutritionally vulnerable populations (women of reproductive age and young children)	• Higher Individual **Dietary Diversity Index** (IDDI); higher Household Dietary Diversity Index (HDDI) • Better health and nutrition status of children under five years: ✓ Wasting: % of children under 5 years falling under -2 standards deviations of weight for age (%). ✓ Stunting: % of children under 5 less than -2 standard deviations of mean height for age.

CGIAR RESEARCH PROGRAM ON Livestock

Intermediate Development Outcomes (IDOs)

IDO	Metrics
5. Lower environment impacts in the target value chains (SLO4)	• Quantities of greenhouse gases (methane, carbon dioxide, and nitrous oxide) in each value chain; solid wastes in swine and dairy
6. Policies (including investments) support the development of small-scale production and marketing systems, and seek to increase the participation of women within these (SLO2 and SLO4)	• Public spending on value chains, as shares of national public spending; quality of spending on public goods in value chains, as share of spending on all goods in the value chains • Private investment in the value chains • Number of prominent policy reforms
7. Improve yield potential of major feeds and forages (SLO1, SLO2, SLO4)	• Yield potential per unit of land in environments representative of the given value chains • Uses and yields of improved materials in environments representative of the given value chains

Defining IDO targets

1. What is the adoption domain?
2. What is the best indicator?
    - Seek to align with other CRPs
3. What is a reasonable change in indicator?
    - Bio-economic modeling
4. What is a reasonable number of beneficiaries?
    - Existing examples

Flagship Projects

1. Building a Livestock and Fish Genetics Platform.
2. Improving animal health
3. Reducing the environmental costs of animal production.
4. Developing new biotechnologies for animal nutrition.
5. Sustaining feed-based intensification of animal production.
6. Reducing gender disparities.
7. Transforming selected value chains

Flagship: Building a Livestock & Fish Genetics Platform

Platform of scientific competencies of ILRI, World Fish, NARS and ARI partners

Objective:
to build an integrated animal **genetic improvement** and **innovative delivery** program
for emerging small and medium- scale market-oriented livestock and fish production systems

CGIAR RESEARCH PROGRAM ON Livestock and Fish

Livestock & Fish Genetics Platform

Short and medium term:

a) identification of desired genetic livestock and fish products and initiation of sustained improvement programs within value chains
b) supporting farmers to access desired genetics in cost-effective manners
c) applying a combination of conventional and emerging genomic and information technologies to determine and promote best genetics
   from existing populations for the different production systems;
d) formation of genetic improvement and delivery platforms to systematically improve and deliver desired genetics within and beyond country borders
e) conserving genetic diversity for future needs

Long term:

f) development and testing of novel technologies to provide long-term

Livestock & Fish Genetics Platform

Ultimate outcome: significant and sustained genetic improvement of priority livestock and fish species in developing countries.

This will contribute to

- Improved productivity (IDO 1)
- More and better supply of ASF (IDO 2)
- More income (IDO 3)

Feeds flagship

- Realize feed-based intensification of animal production to meet the needs of poor and vulnerable consumers, while mitigating environmental effects
  - … at the core of sustainable intensification….
  - optimize temporal and spatial use of land for feedstuffs
  - model and reduce environmental costs associated with different feeds
  - identify and utilize novel feeds and forages, including technologies from biofuel production to produce more and better quality fodder

Feeds flagship - targets

- 50% improvements in productivity (livestock and fish per unit land area)
- In 50% of our value chains
- Zero additional environmental costs (?)
- By end of nine years….

Indicative Budget (US$ million)

	2015-17	2018-20	2021-23
Building a Genetics Platform	12.7	12.7	12.7
Improving Animal Health	17.0	17.0	17.0
Reducing Environmental Costs	17.3	17.3	17.3
Developing New Biotechnologies	7.0	7.0	7.0
Sustaining Feed-Based Intensification	13.1	14.4	15.9
Reducing Gender Disparities	7.2	5.4	5.4
Value chains	50.6	66.1	62.9
Capital	5.0	5.0	5.0
TOTAL	129.9	144.9	143.1

Budget for value chains

	Indicative Budgets, US$ thousands		
Value Chains	**2015-2017**	**2018-2020**	**2021-2023**
Bangladesh Fish	12,000	12,000	12,000
Egypt Fish	5,000	5,000	5,000
Ethiopia Small Ruminants	8,400	7,800	7,800
India dairying	6,000	12,000	12,000
Mali Small Ruminants	2,800	5,200	2,600
Nicaragua dual purpose Cattle	2,800	5,200	2,600
Tanzania Dairying	3,000	6,000	8,000
Uganda Swine	6,130	6,130	6,130
Vietnam Swine	4,500	6,750	6,750
Total	50,630	66,080	62,880

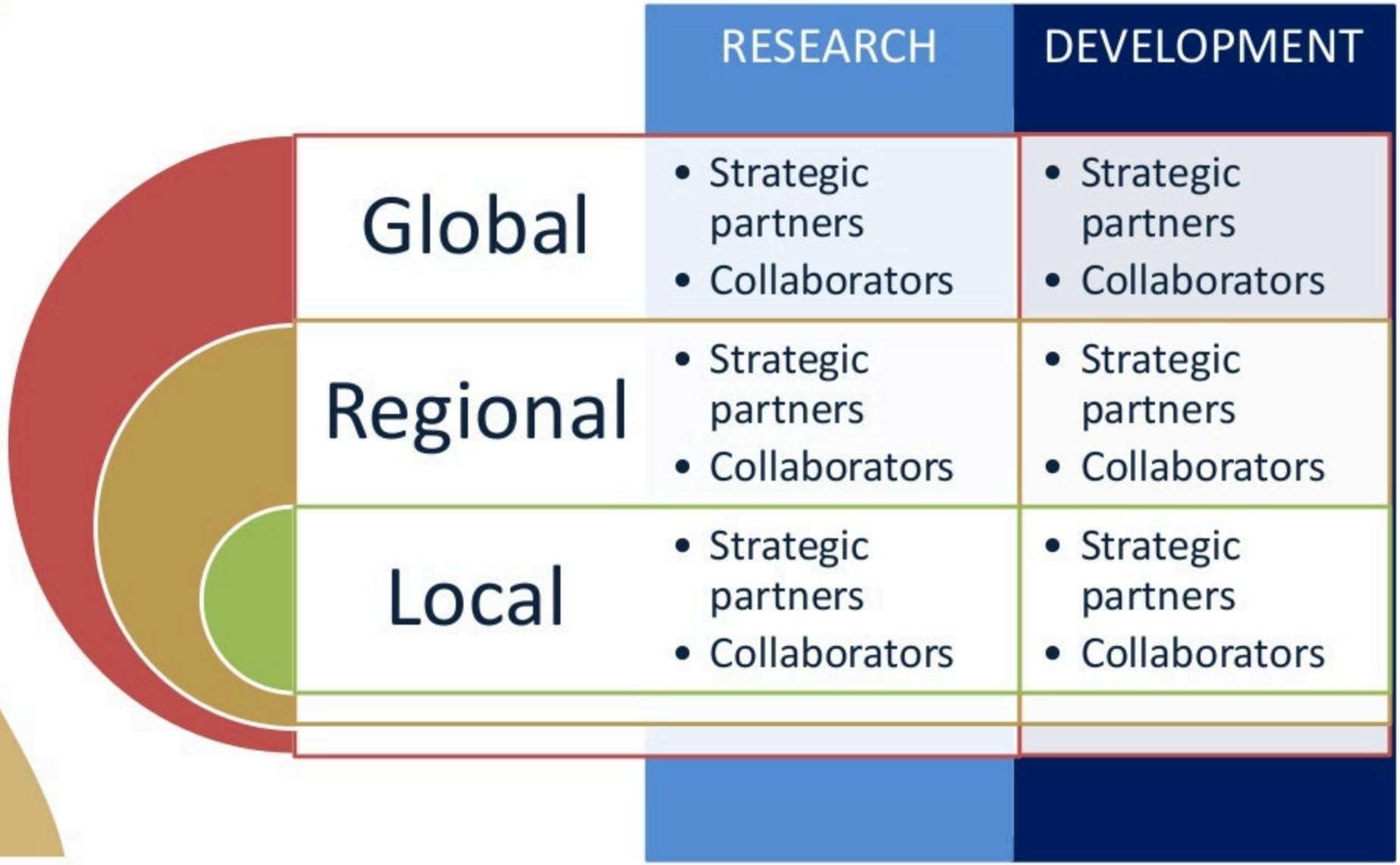
Partner CGIAR Centres

- ILRI
- WorldFish Centre
- CIAT
- ICARDA

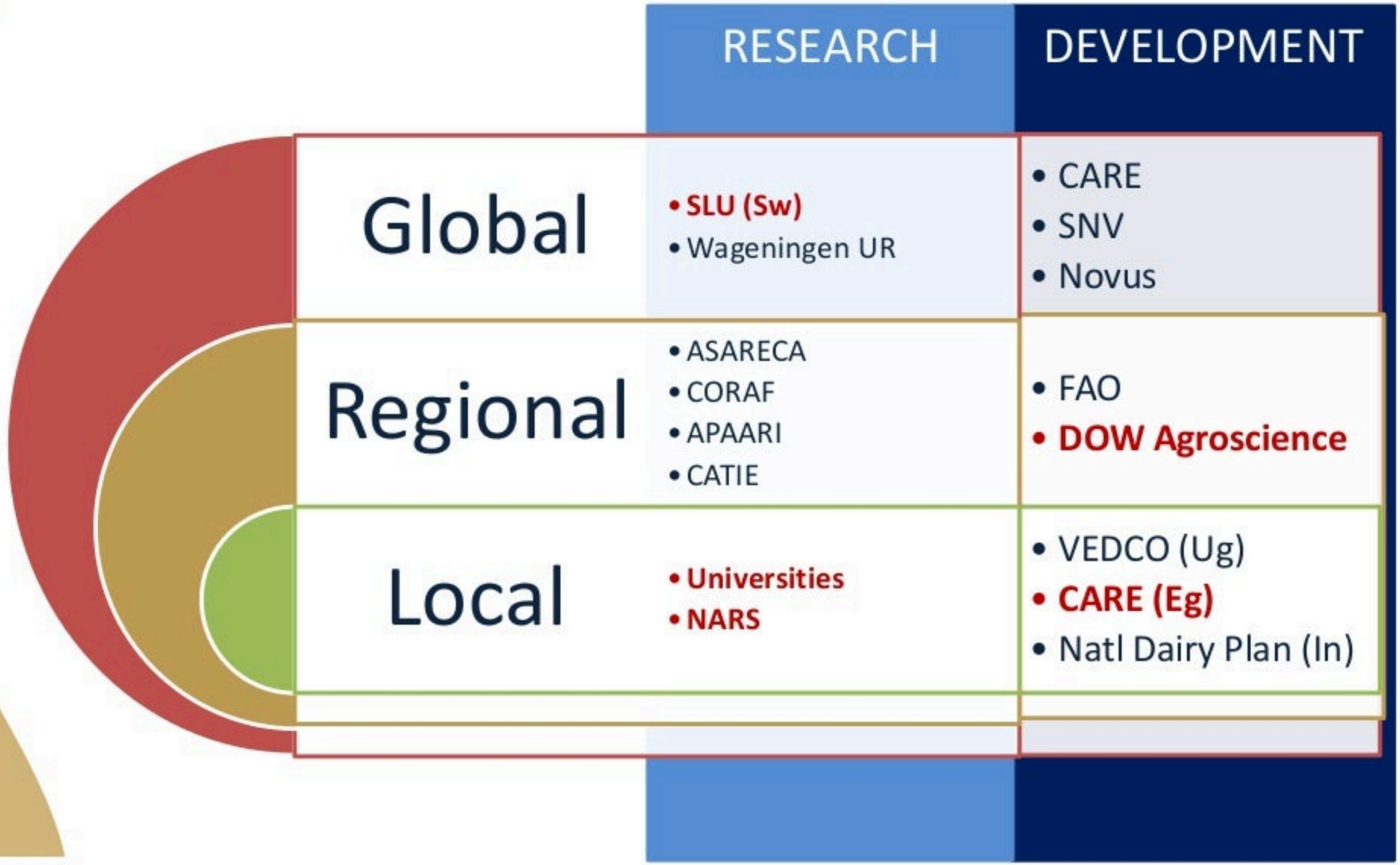
Approach to partnerships

- Head of Development Partnership
- GCARD session on partnership
- Partnership strategy under development
- Identification of strategic partners
  - Research
  - Development
  - Stratified
  - Criteria?
  - Evolving and dynamic

Partnership strategy



Strategic partners



Links


Crop CRPs:
Food-feed crop breeding
Systems CRPs: Value chain options
A4NH: Animal source food nutrition
Livestock & Fish
PIM: Value chain analysis
A4NH: Food Safety & Zoonoses
CCAFS/WLE: Environmental impact mitigation

CGIAR Research Program on Livestock and Fish

livestockfish.cgiar.org

CGIAR is a global partnership that unites organizations engaged in research for a food secure future. The **CGIAR Research Program on Livestock and Fish** aims to increase the productivity of small-scale livestock and fish systems in sustainable ways, making meat, milk and fish more available and affordable across the developing world.