

Potential Economic Impact of the Avian Influenza in CARICOM: *A Preliminary View*

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Industry Background



CARIBBEAN POULTRY INDUSTRY

- **Production (2003)**
 - 205,000 MT – 410 m USD
 - 65 Meat/ Feed/ Egg Manufacturing Plants
- **Food Security**
 - 44 Kg/ Capita
 - 65% Local Consumption
- **Employment - 30,000 People**
 - 12,000 Small Farmers
 - 4,000 Cottage Processors
 - 2,000 Commercial Farmers
- **Backward Linkages**
 - Hatching Eggs – 20% Intake
 - Rice - 15,000 Acres
 - Corn – 25,000 Acres
 - Organic Fertilizer – 13,000 MT

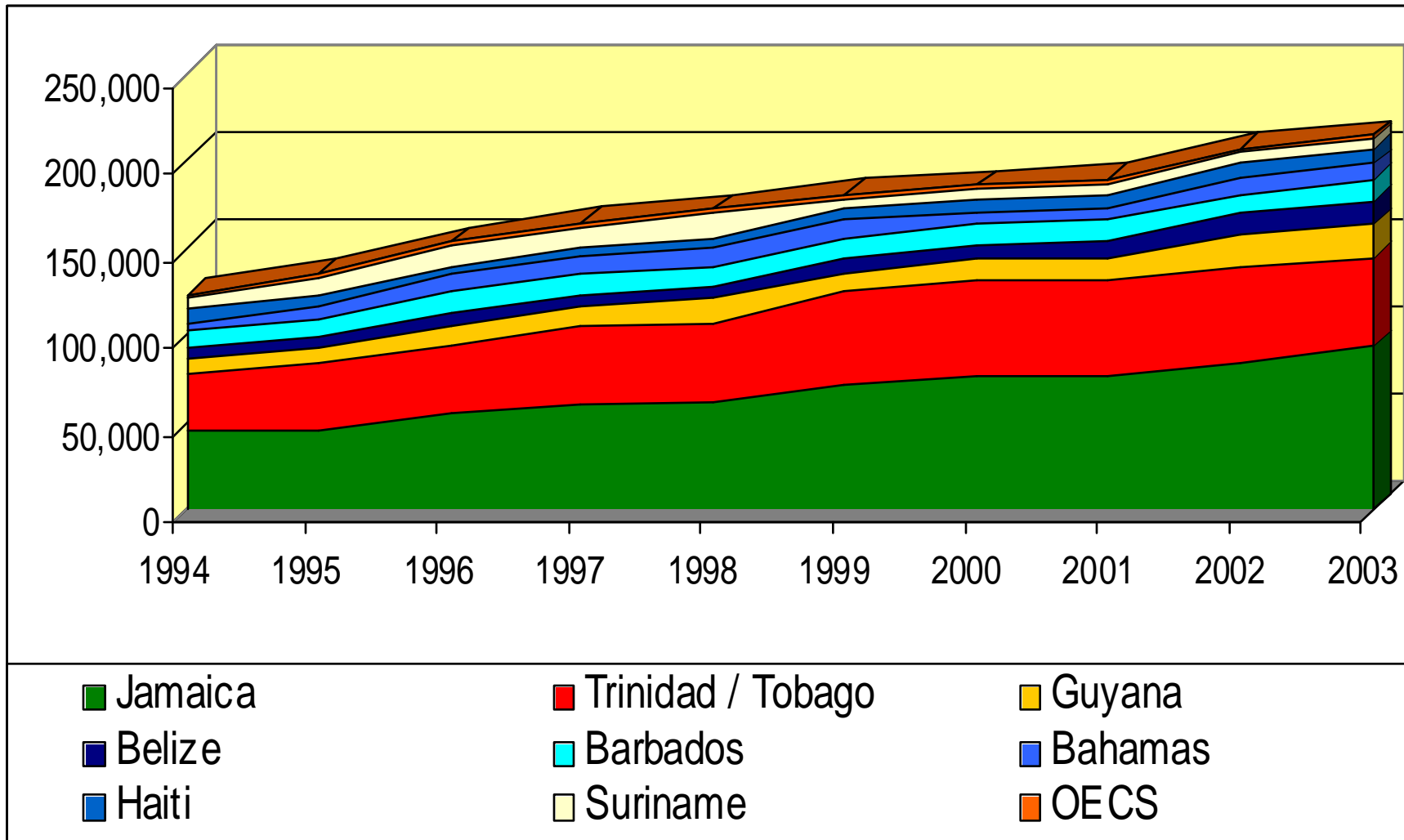


CARIBBEAN EGG INDUSTRY

- 43 Million Dozens => 58 M USD (2004)
- Supply - Local > 90% in all 15 CARICOM States
- 2,825 Producers
 - 425 Commercial
 - 2,400 Small/ Backyard



CARICOM POULTRY MEAT PRODUCTION Continued Growth!!



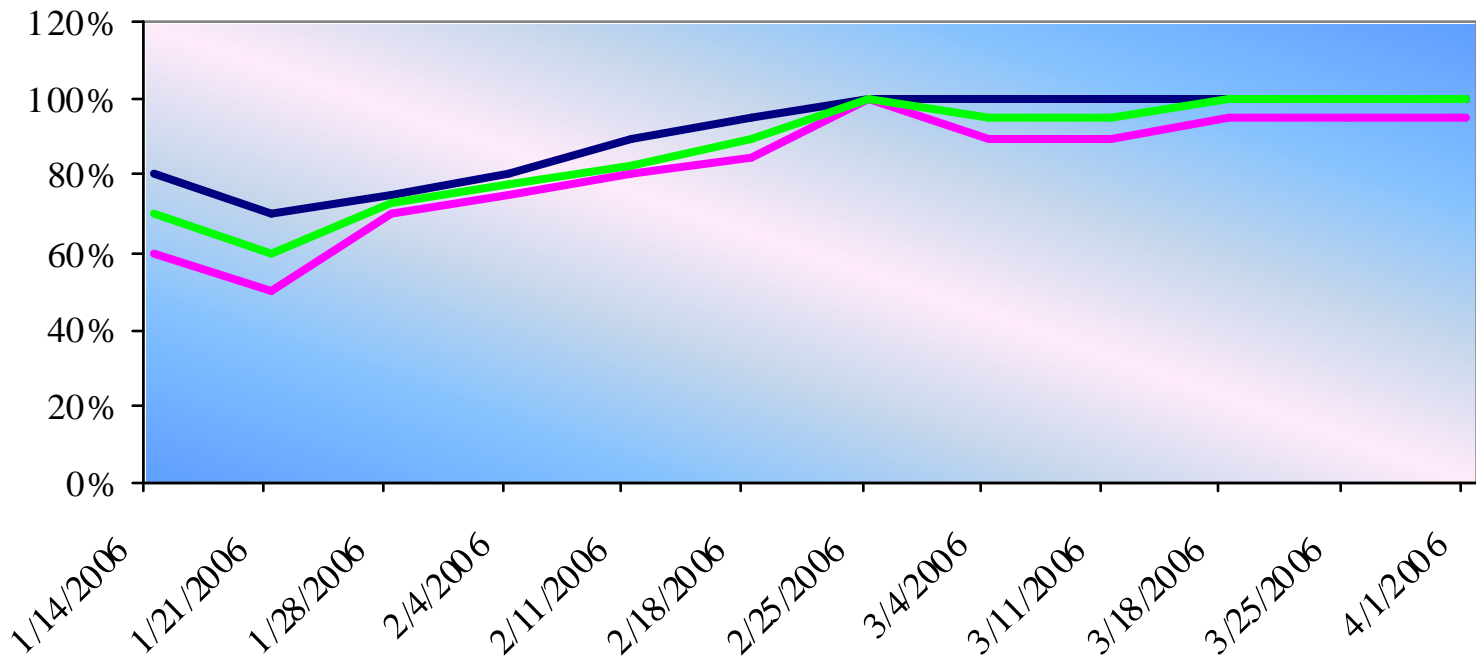


Recent Disease Impact Experience Trinidad and Tobago

The Outbreak of Aspergillosis

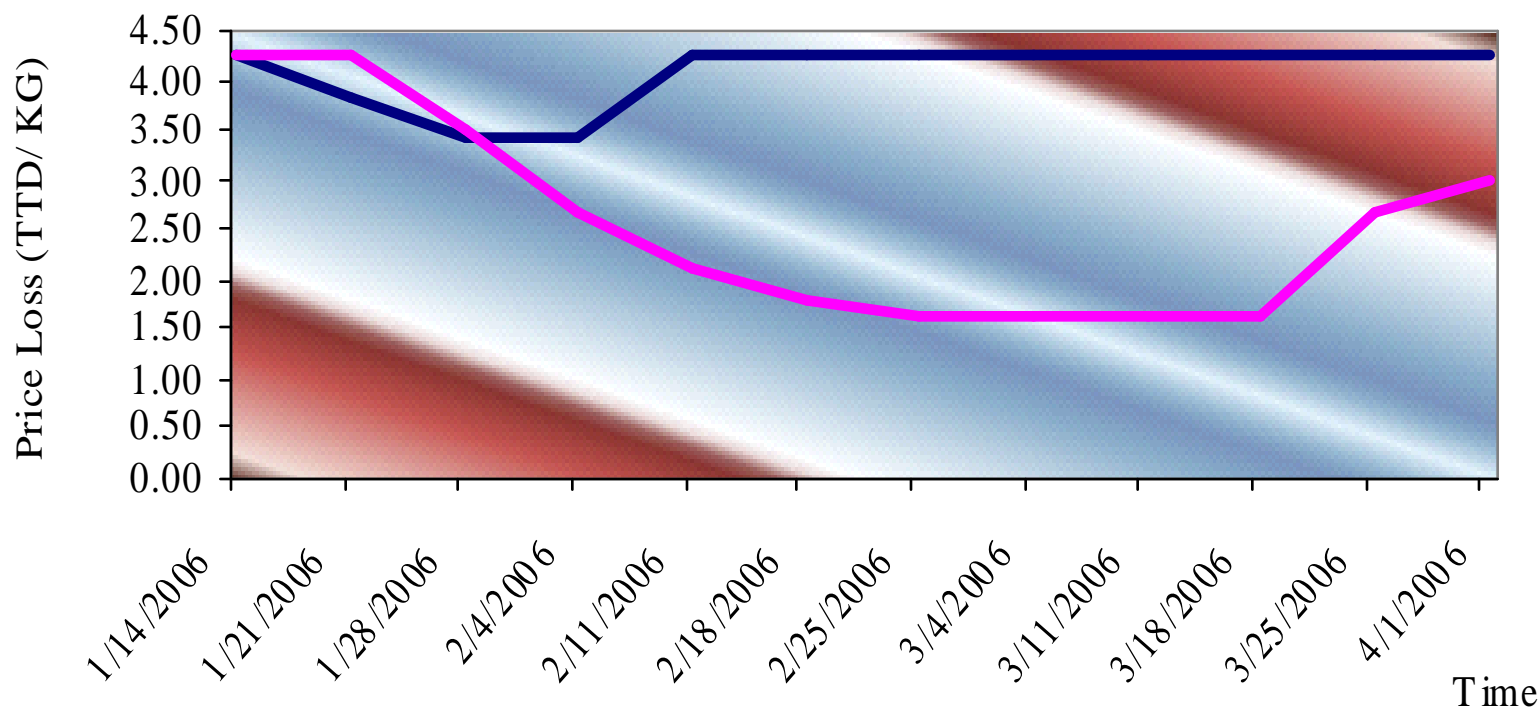
January 2006

T&T Aspergillosis Outbreak: Sales Reduction



— Sales Loss Processed — Sales Loss Live — Sales Loss Total

T&T Aspergillosis "Outbreak" Decline in Prices



— Price Loss Processed (TTD/KG)

— Price Loss Live (TTD/ KG)



Some Lessons

(Based on a Limited Survey)

Findings

- **Consumer had little confidence on the ads put out by the industry (2.74 out of 5)**
- **Consumers generally unaware of Quality Issues in the Poultry Industry**
- **Consumers expresses need for QA, specifically tight regulatory control , Monitoring & Testing**
- **Many unaware of the difference between Aspergillosis and AI**

The Global AI Experience: *Selected Cases*

AI Outbreak Impact - Asia

OIE/FAO/WHO Reports

- **Asia (2003/4)** – 12 countries. Birds culled - 100+ m birds
 - **China** –
 - Exports drop by 20%
 - **Chicken consumption down by 20%+**
 - **Japan** –
 - **Chicken consumption drops 20%**
 - Imported poultry **prices increase by 50 – 80%,**
 - **Pork Prices increase 40%**
 - **Pakistan** –
 - **Broiler prices down 40%** force small farmers out of production
 - 5.4 b Rs lost

AI/END Outbreak Impact - Americas

OIE/FAO/WHO Reports

- Chile (2002):

- Control cost - 50 m USD,
- Exports lost - 100 m USD,
- **Poultry price increase - 17% impact**

(implications for food security re: low income households)

- Brazil (2003/4):

- **FOB Prices increase 47%** to 1,500 UD/MT
- Increases range 25 – 75% depending on product
- Export Volumes – 10% up

AI/END Outbreak Impact - Others

Trade Reports

USA (2003/4):

Mix of Causes – Atkins Diet/ Grain Prices/
BSE and AI

- Whole Birds Prices –20% up
- Leg Quarter Prices – 90% up to \$0.35 US/Lb from \$0.18 US/Lb

Impacts on Parameters

- Price Increases: 17 – 40 %
- Export Prices up by as much as 47%
- Pork Prices up by as much as 40%
- Exports down by as much as 20%

Economic Impact



Public Policy Interest in AI

- ✓ **Potential widespread impact on food security as result of effects on:**
 - Reduced demand for poultry meat and eggs
 - reduced supply /scarcity of poultry products as a result of culling etc
 - availability and price of other sources of animal protein and seafood
- ✓ **Potential impact across many sectors**
eg tourism, food service industry, direction, food service
- ✓ **Impact on employment and livelihoods**
- ✓ **Vulnerability of low income groups**
- ✓ **The implications of longer term structural changes in the poultry sector**
- ✓ **The need to decide on the public policy response to AI - what is the optimal strategy**
- ✓ **Implications for Financing**

Scope

- **Request from COTED**
- **H5N1 Impact vs Human Pandemic Influenza**
- **State of knowledge – major gaps limit analysis of the issues and impacts since:**
 - **Outcome / impact is a function of a complex set of variables**
 - **Dynamic interactions are difficult to predict**
- **Given that more is known of AI we focus this presentation on the AI issues**
- **Our work is ‘work in progress’ – we therefore offer some preliminary views of the potential impacts**

Methodology

- **Uncertain Outcome - Appropriateness of Scenario Planning**

- **Role for Social Benefit/ Cost Analysis**
 - Strategy for Public Policy attention and support
 - to inform public policy on the consequences of alternate course of action / alternate responses to the AI problem eg.
 - **planned, opportunistic, or laissez faire**
 - **Elements : stamping out of outbreaks, compensation / “support” / credit; surveillance / monitoring; import control; the use of vaccination; compartmentalization.**
 - resource mobilization (the case needs to be made; vulnerability needs to be established)

- **B/C analysis needs consider:**
 - Short term and longer term measures
 - Direct as well as indirect effects, inclusive of economy-wide effects
 - Tangible as well as intangible

Potential Social & Economic Impacts

(Source: FAO Conference: Nov 2005: Bangkok)

SOURCES:

- animal health concerns and measures
- human health concerns and measures
- loss of livelihood and structural change

Impact Related to Animal Health

- ✓ costs of mortality, morbidity and production loss following infection
 - ✓ investigation, culling, compensation, training, vaccination
 - ✓ restocking, new biosecurity
 - ✓ cost of lost business/ trade
- ✓ institutional response and communication
- ✓ immediate vs. long term interventions/ solutions
- ✓ perceptions of farmers

Impact Related to Human Health Measures

- ✓ fatalities and the cost of their prevention
- ✓ poultry consumption and hence production
- ✓ perceptions regarding food safety and food security
- ✓ trade relations between trading nations

Impact Related to Livelihoods and Structural Change

- ✓ impact on livelihoods resulting from changed management systems to accommodate higher biosecurity
- ✓ community costs from e.g. rearrangement of markets
- ✓ organization and costs of restocking
- ✓ new structure for the poultry sector with some former players excluded
- ✓ perception of personal insecurity/ uncertainty
- ✓ a change in availability of inexpensive and accessible animal protein

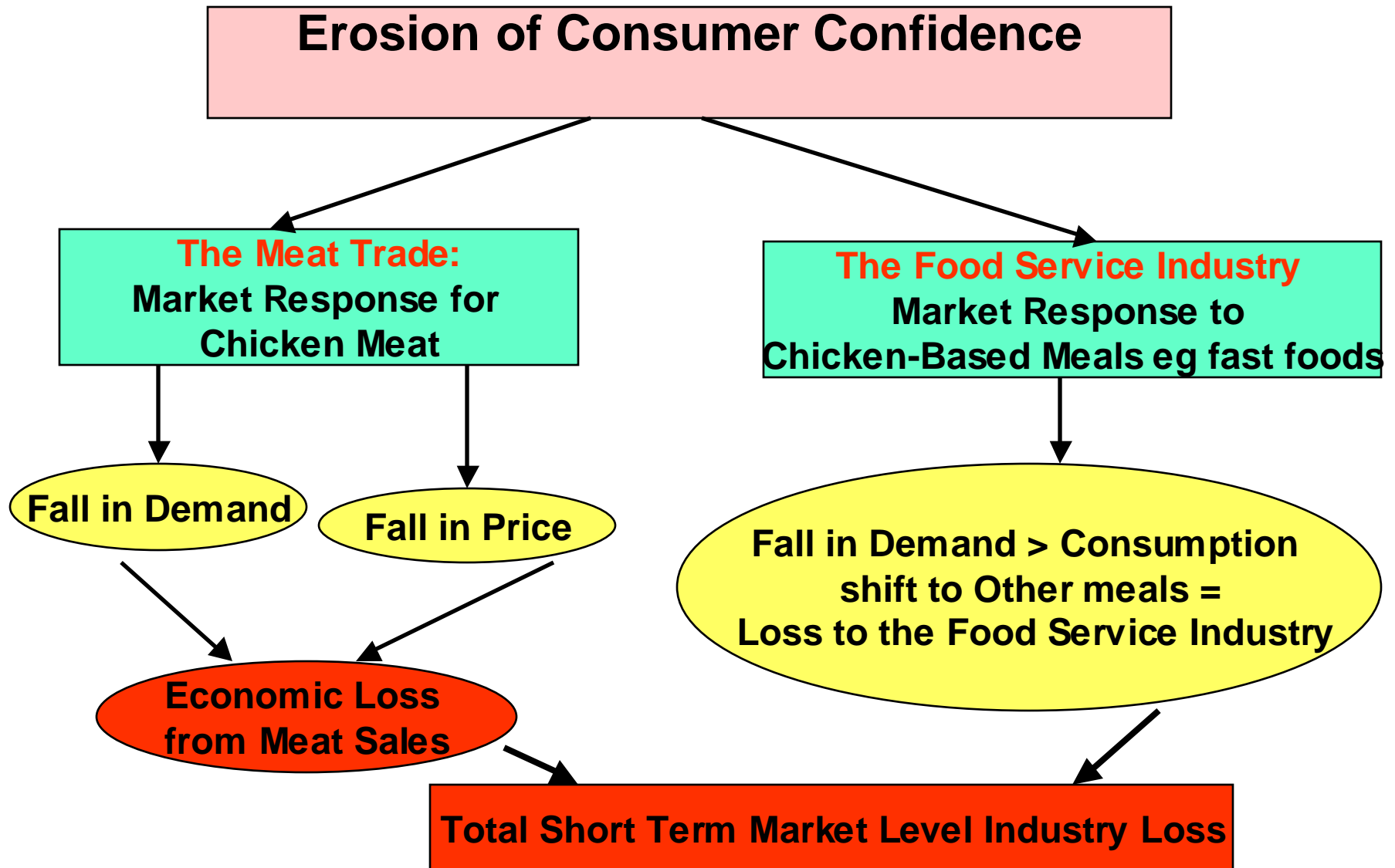
Direct Short Term CARICOM Market Impact from AI

Possible Outcomes: Meat & Eggs

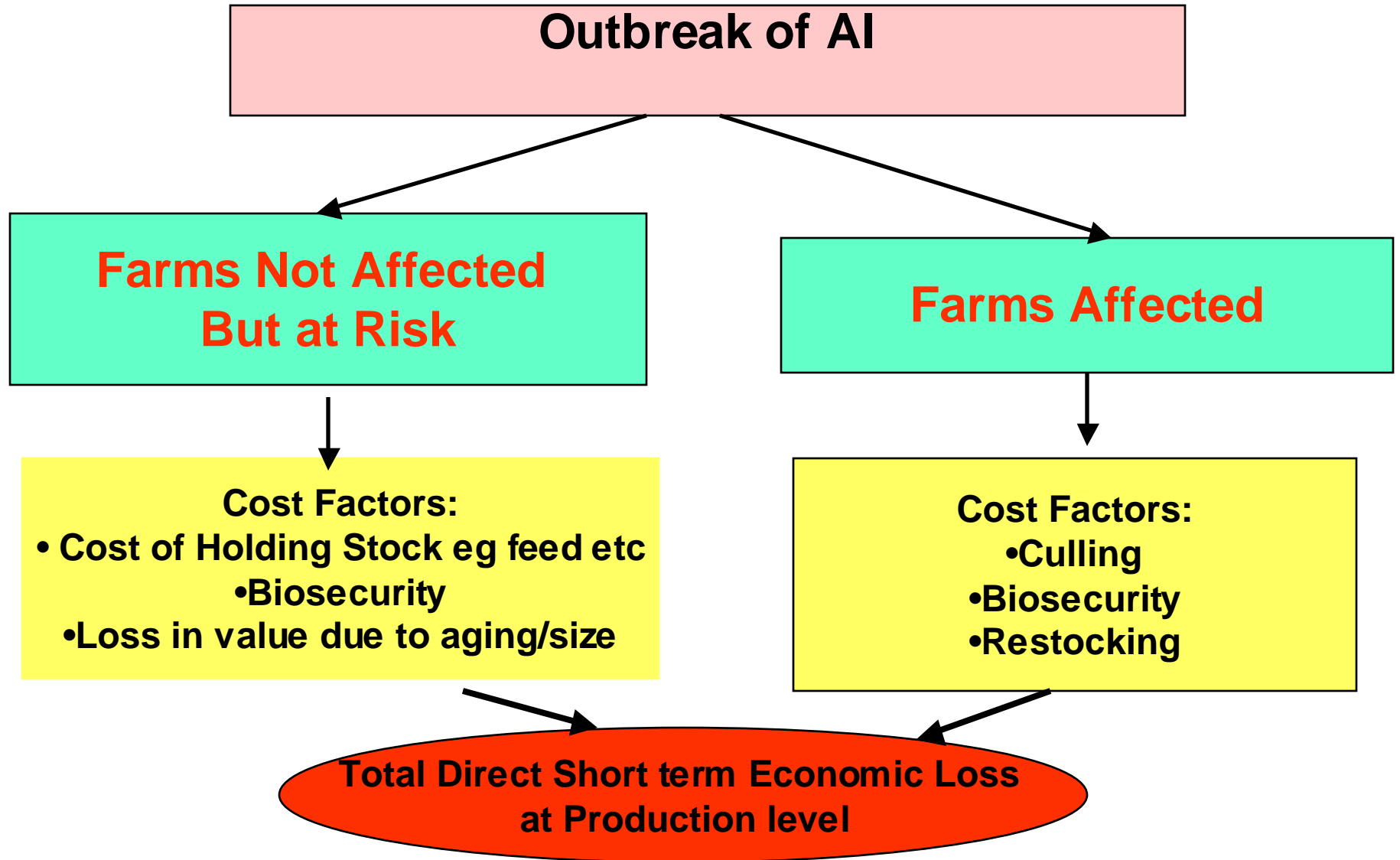
Assumptions

- ✓ Duration of an AI impact on demand is 6 mths at max
- ✓ Market losses comprise both:
 - ✓ Reduced consumption / demand
 - ✓ price reduction as result of decline in consumption
- ✓ The majority of market losses are within the first 3 weeks of an outbreak, with the severity of the impact tailing off over months 4 – 6
- ✓ While Imports of chicken meat is likely to be attempted the market is likely to remained depressed because of a lack of consumer confidence
- ✓ Market losses could extend over several months as AI spread to other areas / islands

Industry Impact: Market Level Economic Losses (Direct & Short Term)



Industry Impact: Production Level Economic Losses (Direct & Short Term)



Consumer Response: Market Level Economic Losses (Indirect & Short Term)

Erosion of Consumer Confidence

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graph TD; A[Erosion of Consumer Confidence] --> B[Shift in Consumption Pattern: Substitution of Fish & Other Meats as well as Non meats]; B --> C[Demand Shifts causes upward Pressure on Prices (domestic sources as well as imports)]; C --> D[IMPACT: Loss of Consumer Welfare, Loss of Foreign Exchange, Food insecurity for Vulnerable Groups];
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Shift in Consumption Pattern:
Substitution of Fish & Other Meats
as well as Non meats

**Demand Shifts causes upward
Pressure on Prices**
(domestic sources as well as imports)

IMPACT: Loss of Consumer Welfare
Loss of Foreign Exchange
Food insecurity for Vulnerable Groups

Scenarios: Possible Outcomes

Parameter: Assumed	Possible Upper Value	Possible lower Value
% of CARICOM Prodn Base Affected	0.5	0.3
% decline in Consumption / Sales	0.3	0.1
% decline in price	.04	0.15
Parameters: Market Based	Avg Caricom Value	
Chicken Meat prodn (mt)	210,000	
Chicken Wholesale Price (USD/kg)	\$ 2.10	
Value Added in Chicken Food Service (usd/kg)	\$ 6.90	
CARICOM egg prodn (Million doz)	42	
Egg Price (USD / doz)	\$ 1.25	

Economic Impact on Chicken & Egg Sales (USD MN)

Market Item	Upper Range of Losses	Lower Range of Losses
Chicken Meat Sales (mt)	22,750	7,350
Food Service Sales (mt equiv)	3,063	2,450
Chicken Meat Sales (USD MN)	\$ 31.24	\$ 5.24
Chicken Meat Sales : Food Service (USD MN)	\$ 21.13	\$ 12.68
Total Chicken (USD MN)	\$ 52.37	\$ 17.92
Egg Sales (mn Doz)	2.45	1.47
Egg Sales (MN USD)	\$ 1.04	\$ 0.62

Conclusion

- **Significant benefit in terms of losses avoided if:**
 - **EARLY PREPAREDNESS**
 - **Speed of response**
 - **Effective Communication and Sensitization**
 - **Economic Safety net for losses**
- **What investments are required for the adoption of effective bio-safety measures at the farm, national and regional level**
- **Do anticipated benefits justify the costs**
- **Strategies required to address income distribution impacts**
- **The Need to develop Food Security strategies**

Thank You

