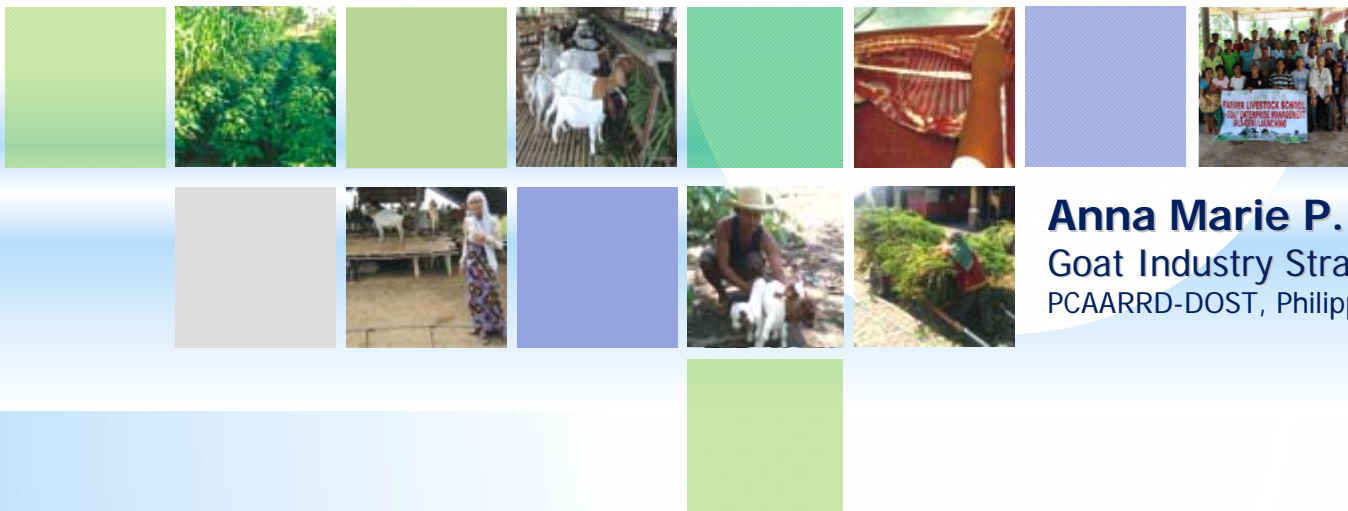


GOAT Industry Strategic Program



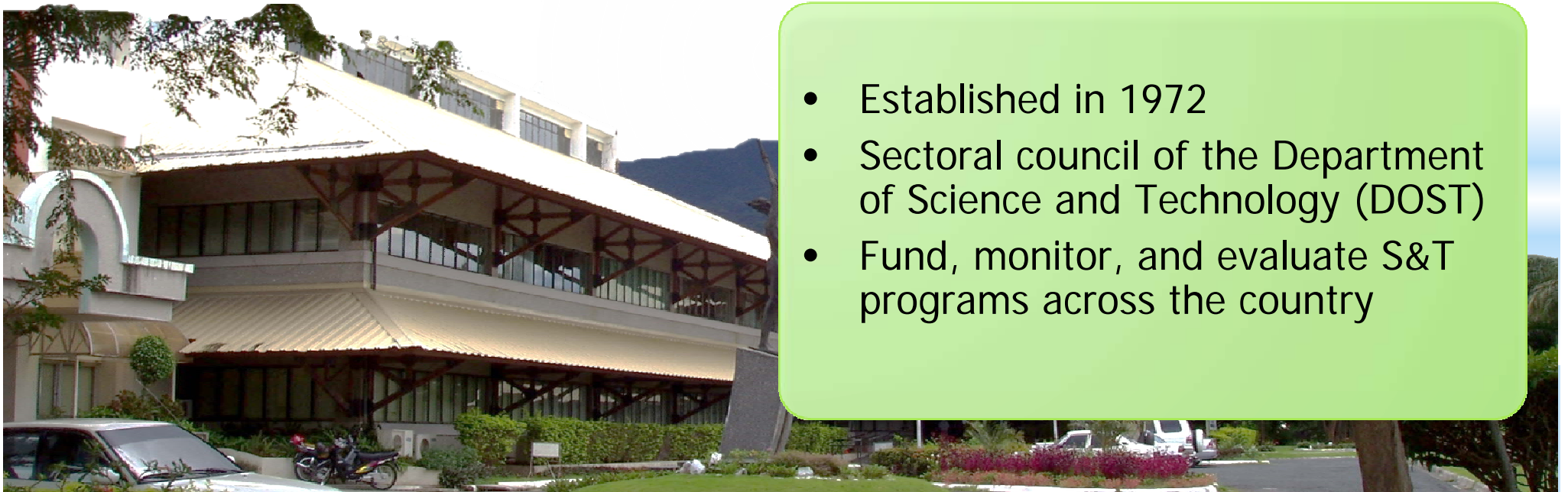
Anna Marie P. Alo
Goat Industry Strategic Program Manager
PCAARRD-DOST, Philippines



PCARRD

**Philippine Council for Agriculture, Aquatic
and Natural Resources Research and Development**

DEPARTMENT OF SCIENCE AND TECHNOLOGY



- Established in 1972
- Sectoral council of the Department of Science and Technology (DOST)
- Fund, monitor, and evaluate S&T programs across the country

GOAT INDUSTRY SITUATIONER



- **Sunrise Industry, providing livelihood to 1.34M Filipinos** (BAS, 2010)
- **Total goat inventory: 3.67 M hd** (BAS, 2013)
98% backyard, 2% commercial
- **2013 dairy inventory: 6,379hd** (0.17%)
~600 of which are in milking line (NDA,2013)



ECONOMIC IMPORTANCE OF GOATS



Slaughter Goat

● **Chevon is a healthy meat**

lower in saturated fat than chicken, pork or beef;
low in cholesterol but high in protein

● **Requires low investment with high rate of return**

NPV for a 25 doe enterprise is P196,707 & IRR is 38.52—very good return for the P263, 868 total investments, which can be recovered over a period of 3 years (PCAARRD, 2012)

● **With great market potentials as demand & extraction rate are greater than production**

In 2010, goats slaughtered was 108% higher than kids born alive (BAS,2010)



ECONOMIC IMPORTANCE OF GOATS



Dairy Goat

● As food - healthier than cow's milk

- easier to digest and assimilate in the human body
- suitable for both the young and old.

● As non-food ingredient

- Goat milk-based beauty products now abound in the Philippine market
- good moisturizer, contains good fats to keep skin's oils in balance
- has beautifying and anti-aging properties, Vit D, B6, C, and E, minerals, and is a natural source of alpha-hydroxy acids




GOAT INDUSTRY TARGETS



Indicator	Baseline (2010)	Targets		Assumptions
		W/ Interventions 2015	2020	
Goat Inventory, M hd ¹	3.88	5.07	9.18	R&D will just be catalytic in the dev't of the industry.
Production volume, '000mt ²	78.45	90.55	145.83	
Conception Rate, %	75	79.28	90	
Kidding Interval, months	9	8	8	
Preweaning Mortality, %	25	21	10	
Slaughter weight, kg	15	19	30	
Milk production per doe	0.5L/d or 45L for 90 days	2L per day or 360L for 180 days (2016)		


SLAUGHTER GOAT ISP



Aspect	Industry Status	Gaps/Needs	Current Intervention/s
 <p>Breeder Production and Mgt</p>	<ul style="list-style-type: none"> ▪ Low production volume (78,450mt) - Very small goat pop. (3.67M), dec. since 2010 - High extraction rate than production ▪ Imported breeds available at gov't & private farms but backyard farmers have limited access to them due to high cost of acquisition & maintenance ▪ Semen extender developed ▪ Workable AI delivery system established in Region 2; currently being rolled out in 5 other regions 	<ul style="list-style-type: none"> ▪ Need to introduce good genetics at smallhold farm level ▪ Improvement of cryopreservation techniques for goat semen 	<ul style="list-style-type: none"> ▪ Testing & roll-out of AI tech using semen from exotic bucks ▪ Improvement of cryopreserv'n protocols for better processed semen quality ▪ Dev't of signature breed for the Philippines <p><i>Potential Impact:</i></p> <ul style="list-style-type: none"> ❖ Increased goat inventory by 55% by 2020


SLAUGHTER GOAT ISP



Aspect	Industry Status	Gaps/Needs	Current Intervention/s
 <p>Dam Mgt.</p>	<ul style="list-style-type: none"> ▪ Low dam productivity <ul style="list-style-type: none"> - Low CR (75%) - Long KI (9 mos) ▪ Lack of feed concentrates to address needs of dam <ul style="list-style-type: none"> - Pelletized blended ration (PBR) for lac. does developed, not yet marketed - Unsustained year-round feed supply in most farms ▪ Seasonality of estrus 	<ul style="list-style-type: none"> ▪ Need to establishment of year round supply of feeds ▪ Mktg of pelletized blended ration (PBR) for lac. does & promo of FRS ▪ Need to promote recording system and alternative management options in the countryside 	<ul style="list-style-type: none"> ▪ Multi-location testing of legume strata and dev't of diff. variants of flush feeds for does (PBR, fresh strata, leaf meals) & roll out to 6 regions ▪ Revision of the FLS-IGM into FLS-GEM (incl FRS) and roll out to 6 regions ▪ Dev't of alternative off season heat induction techniques <p>Potential Impacts:</p> <ul style="list-style-type: none"> ❖ Improved conception rate from 75%-90%by 2020 ❖ Shortened kidding interval from 9mos-8mos

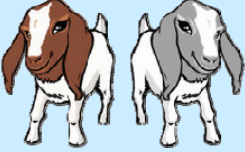
SLAUGHTER GOAT ISP



Aspect	Industry Status	Gaps/Needs	Current Intervention/s
 <p>Kid Mgt</p>	<ul style="list-style-type: none"> ▪ Low productivity of kids <ul style="list-style-type: none"> - High preweaning mortalities (PWM)- 25% - Low birth weight (1.6kg) - Low mature weight (12.6kg) ▪ Undocumented causes of preweaning mortalities ▪ No newborn and PW feed supplements to increase survivability ▪ Pelletized PBR for growers developed but not yet marketed 	<ul style="list-style-type: none"> ▪ Need to profile causes of PWM ▪ Need for clear PWM control strategies for kids ▪ Need for newborn colostrum substitutes & transition feeds for preweaners 	<ul style="list-style-type: none"> ▪ Estab. of PWM causes & dev't of kid health protocols ▪ Dev't of colostrum substitutes for orphaned newborn & transition feeds for preweaners ▪ Promotion of feed products for kids ▪ Biotechnological production of MCM dewormer against <i>H. Contortus</i> and establishment of its manufacturing protocol <p><i>Potential Impact:</i></p> <ul style="list-style-type: none"> ❖ Decreased PWM from 25% to 10% by 2020 ❖ Increased SW from 15 to 30kg by 2020


SLAUGHTER GOAT ISP



Aspect	Industry Status	Gaps/Needs	Current Intervention/s
 <p>Halal Goat Prod'n</p>	<ul style="list-style-type: none"> ▪ Halal market not maximized <ul style="list-style-type: none"> - No halal goat prod'n protocol - No halal chevon process'g protocol - No haram detection protocol ▪ Limited supply of authentic halal-produced goats 	<ul style="list-style-type: none"> ▪ Need to finalize & promote halal goat prod'n, processing and haram detection protocols 	<ul style="list-style-type: none"> ▪ Pilot testing & roll-out of halal goat production, processing and haram detection protocols ▪ Dev't of processed halal chevon-based food products <p><i>Potential Impact:</i></p> <ul style="list-style-type: none"> ❖ Availability of authentic halal goats and penetration of halal market <ul style="list-style-type: none"> - acceptance of locally-produced goats as halal by cert. bodies - Price premium for halal products

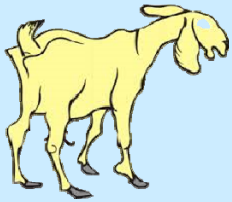
SLAUGHTER GOAT ISP



Aspect	Industry Status	Gaps/Needs	Current Intervention/s
 <p>Post Prod'n</p>	<ul style="list-style-type: none"> ▪ No premium price for prime chevon cuts ▪ Limited market share of chevon products in the market ▪ Protocols for canning chevon-based recipes developed and marketing initiated 	<ul style="list-style-type: none"> ▪ Need to standardize slaughtering procedure for better meat recovery ▪ Need for standard cutting scheme for better pricing 	<ul style="list-style-type: none"> ▪ Establishment of standard slaughtering procedures ▪ Dev't of a uniform classification of chevon cuts ▪ Creation of new products <ul style="list-style-type: none"> - Bouillon and mixes - Ready to eat products - Bouillon dehydrator <p><i>Potential Impact:</i></p> <ul style="list-style-type: none"> ❖ Creation of meaningful products and standards for improved marketing of chevon & chevon-based products

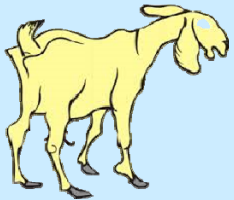
DAIRY GOAT ISP



Aspect	Industry Status	Gaps/Needs	Proposed Intervention/s
 <p>Breeder Performance</p>	<ul style="list-style-type: none"> Very small dairy goat inventory (600hd in 2012) DG performance data fragmented; limited records on smallhold goat's milk production Proliferation of purely anecdotal accounts of best performing DG breed in the country Limited access of smallholders to good DG genetics 	<ul style="list-style-type: none"> Need for national baseline information on the performance of dairy goats to provide realistic inputs to policy makers and future investors on best genotype for dairying in the Philippines Need to introduce good genetics at smallhold farm level and intensify breeding activities thru buck loan or AI 	<ul style="list-style-type: none"> Performance evaluation of available DG breeds in the country towards productivity enhancements Piloting of AI technologies for DG herd build-up in the countryside <p><i>Potential Impact:</i></p> <ul style="list-style-type: none"> ❖ Increased DG inventory by 55%


DAIRY GOAT ISP



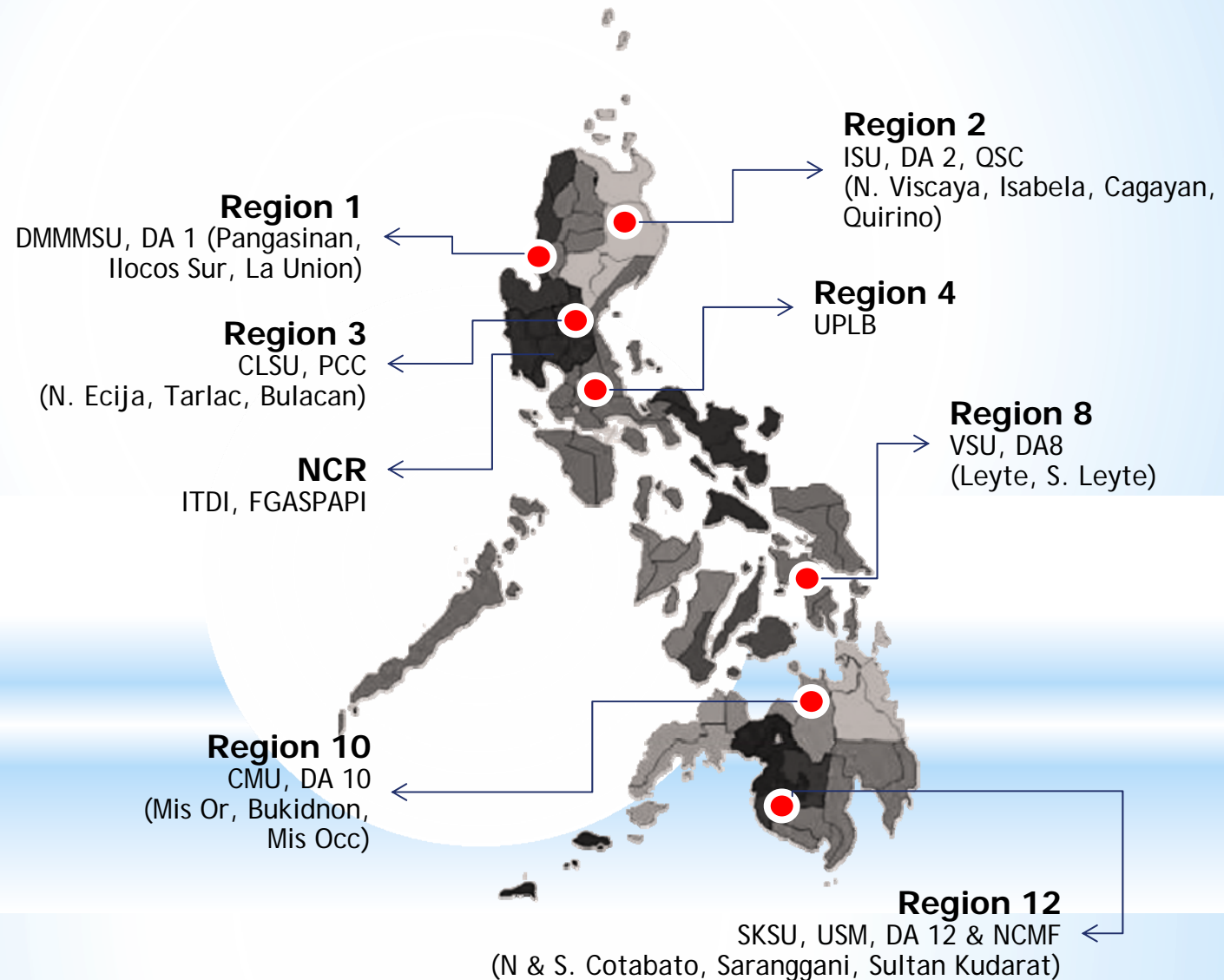
Aspect	Industry Status	Gaps/Needs	Proposed Intervention/s
 <p>Milking line</p>	<ul style="list-style-type: none"> ▪ Low milk yield of local dairy goats (0.5L for 90 days) due to: <ul style="list-style-type: none"> - Poor nutrition due to absence of feeding guides for milking goats - Increased prevalence of intra-mammary infection in DG 	<ul style="list-style-type: none"> ▪ Need to assess value of indigofera as feed for dairy goats and dual purpose breeds and develop feeding guide ▪ Need for a diagnostic and management protocol to manage intramammary infections in dairy goats 	<ul style="list-style-type: none"> ▪ Evaluation of the feeding value of Indigofera ▪ Development of a local field diagnostic kit and protocol for IMI in goats ▪ Epidemiological profile and risk factor analyses of IMI in dairy goats ▪ Development of protocols in the management of IMI in dairy goats <p>Potential Impact:</p> <ul style="list-style-type: none"> ❖ Increased milk production by 100% by 2016 ❖ Decreased economic losses due to mastitis

DAIRY GOAT ISP



Aspect	Industry Status	Gaps/Needs	Proposed Intervention/s
 <p>Milk-based products</p>	<ul style="list-style-type: none"> Wide range of product variability in terms of quality and shelf-life due to lack of standards on effective concentration and type of milk to use for soaps, lotions, and other personal care products 	<ul style="list-style-type: none"> No supply chain analysis (SCA) conducted on DG prodn Need to reduce variability in quality of hygiene products such as soaps and lotions Assurance of product quality 	<ul style="list-style-type: none"> Supply chain improvement of dairy goat in selected areas in the Philippines Establishment of standard procedure and manufacturing process in the production of goat's milk-based personal care products (bath soap, lotion and body scrub) <p>Potential Impact:</p> <ul style="list-style-type: none"> Improved competitiveness of goat milk-based products in terms of product quality, performance and stability that will translate to better price and acceptance of products Generation of R&D initiatives to address gaps found in the supply chain

NETWORK OF IMPLEMENTORS



SUMMARY OF POTENTIAL IMPACTS



National Goat S&T Programs

Increased livelihood opportunities

Additional income for farmers and AI service providers

Increased production volume by 18%

increased access to good genetics in countryside

Improved kid survival by 20%

Increased number of mature goats for sale

Competitive halal products

Increased number of authentic halal goats for sale

Increased DG population

Increased milk production per doe

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***Thank you**