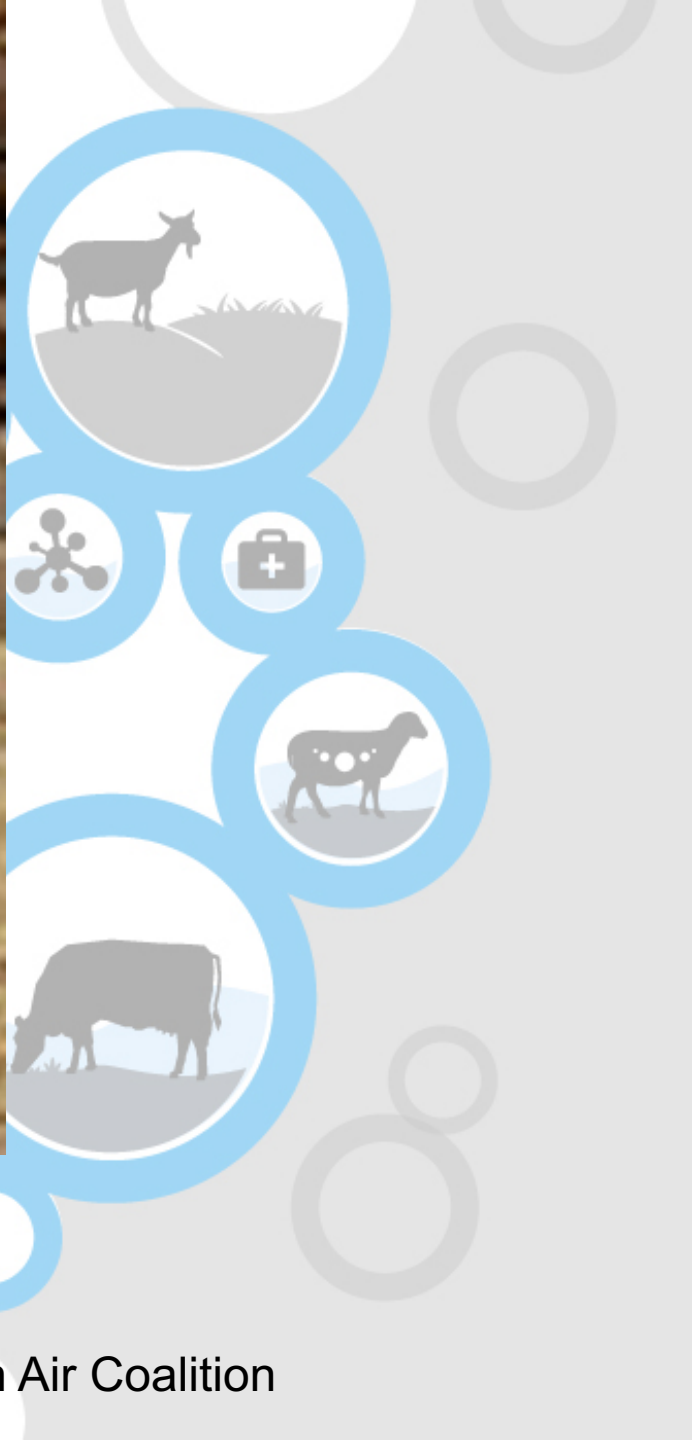


COP 22 Side Event
Improving MRV for Agricultural emission reduction
in the livestock sector: Ethiopian Dairy Sector
07 Nov. 2016
Mediterranean Room
Marrakech

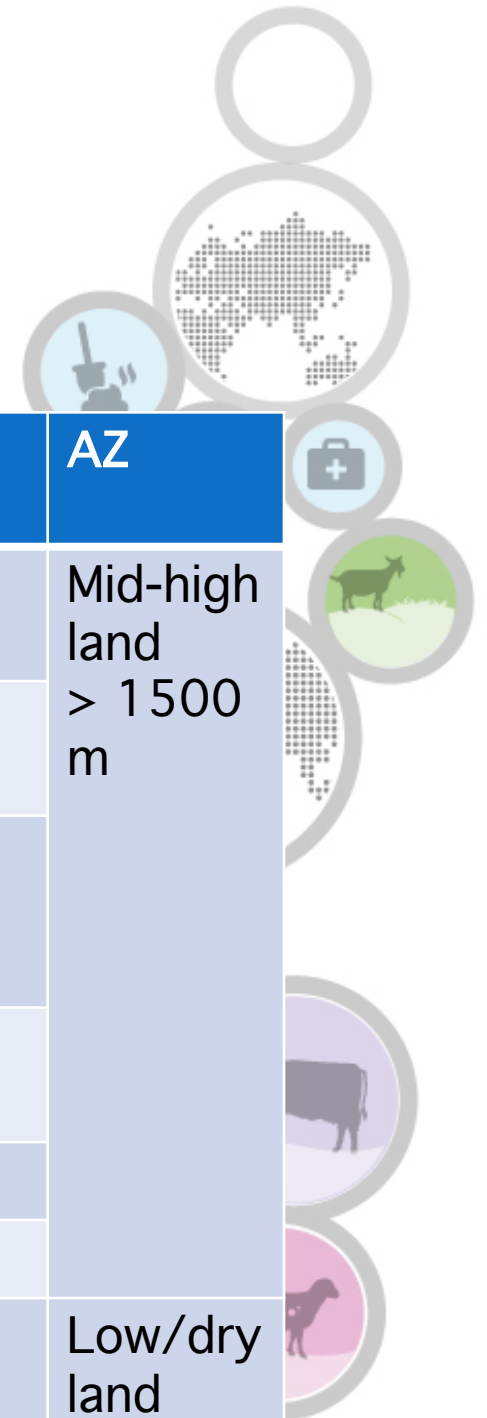


Zewdu Eshetu CSC, AAU
Carolyn Opio, Livestock Policy Officer, FAO

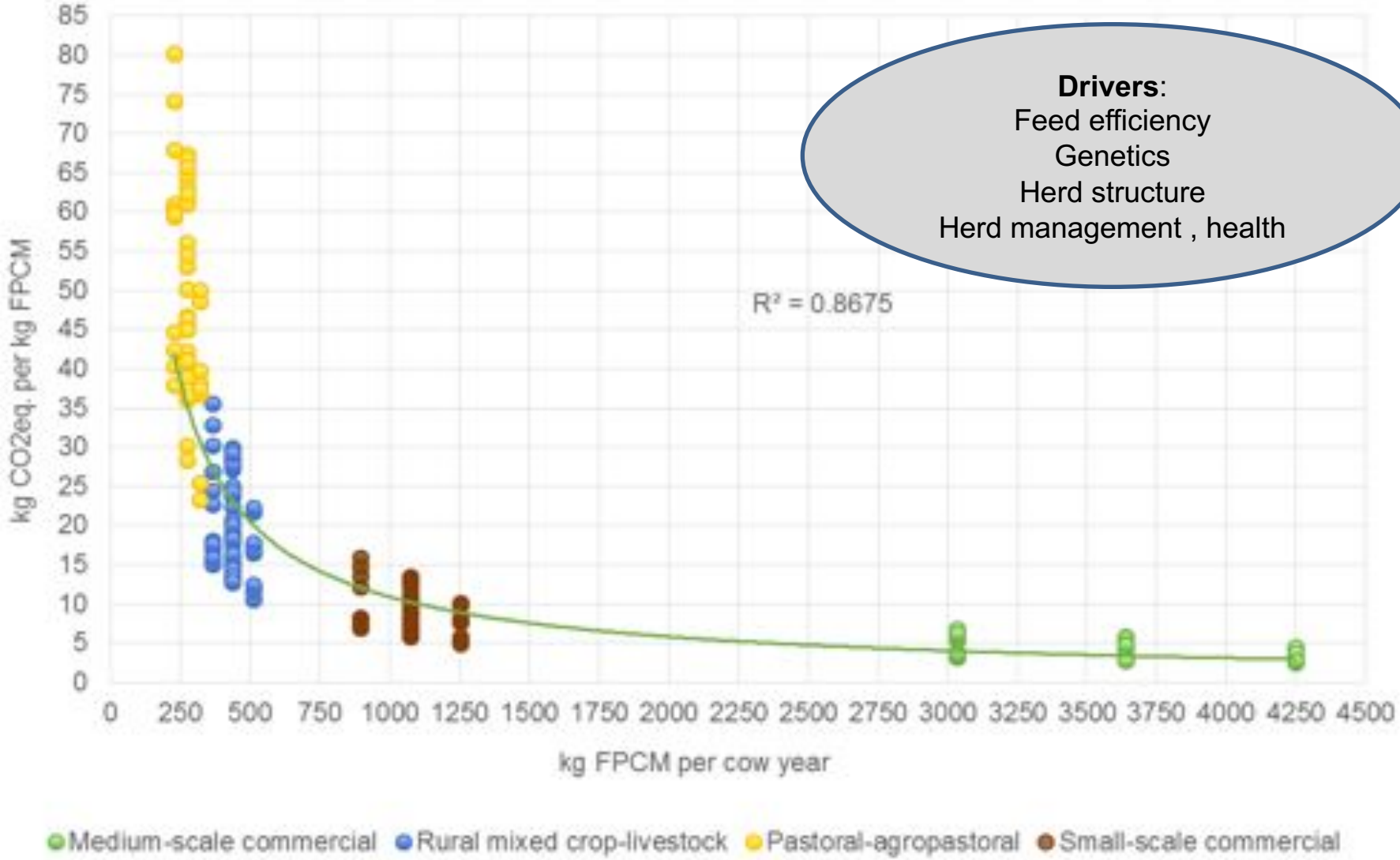
Livestock Resource : 143, 987, 000
 Cattle > 53 mil with Dairy population of >32

Dairy Production system

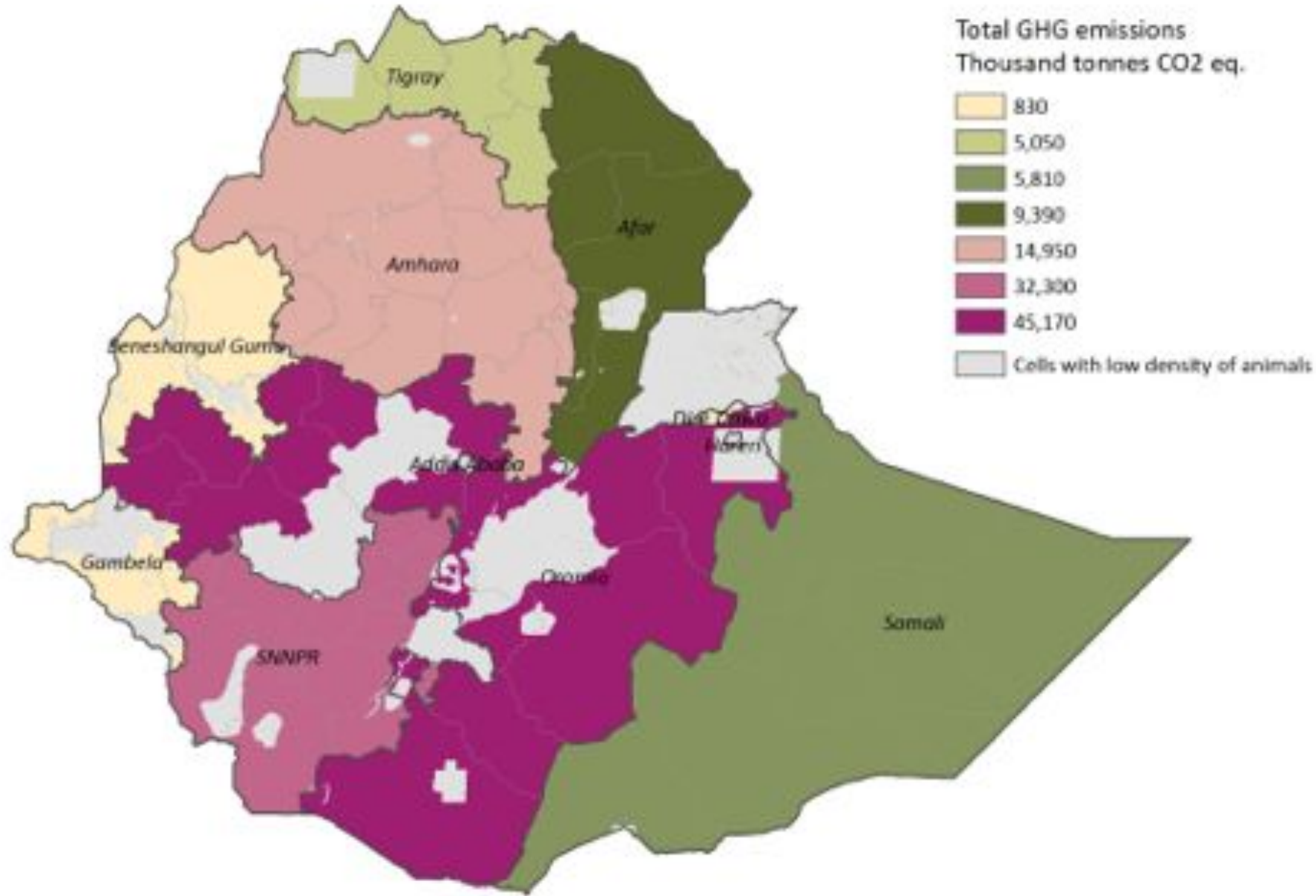
Production system	characteristics	Productivity (l/cow/day)	Share	AZ
Rural mixed crop-livestock	Traditional crop-livestock farming system in rural areas	2.4	72%	Mid-high land > 1500 m
	crop-livestock farm with intensive cropping			
Small-scale commercial urban and peri-urban	Intensified dairy-crop/livestock farming	5.9	3%	
	Peri-urban farms in secondary towns			
Medium-scale commercial	Intra-urban dairy farms in AA	15-20	1%	
	Urban dairy in secondary towns			
Pastoral and agro-pastoral	Pastoral and agro-pastoral in rural areas	1.5	24%	Low/dry land < 1500 m



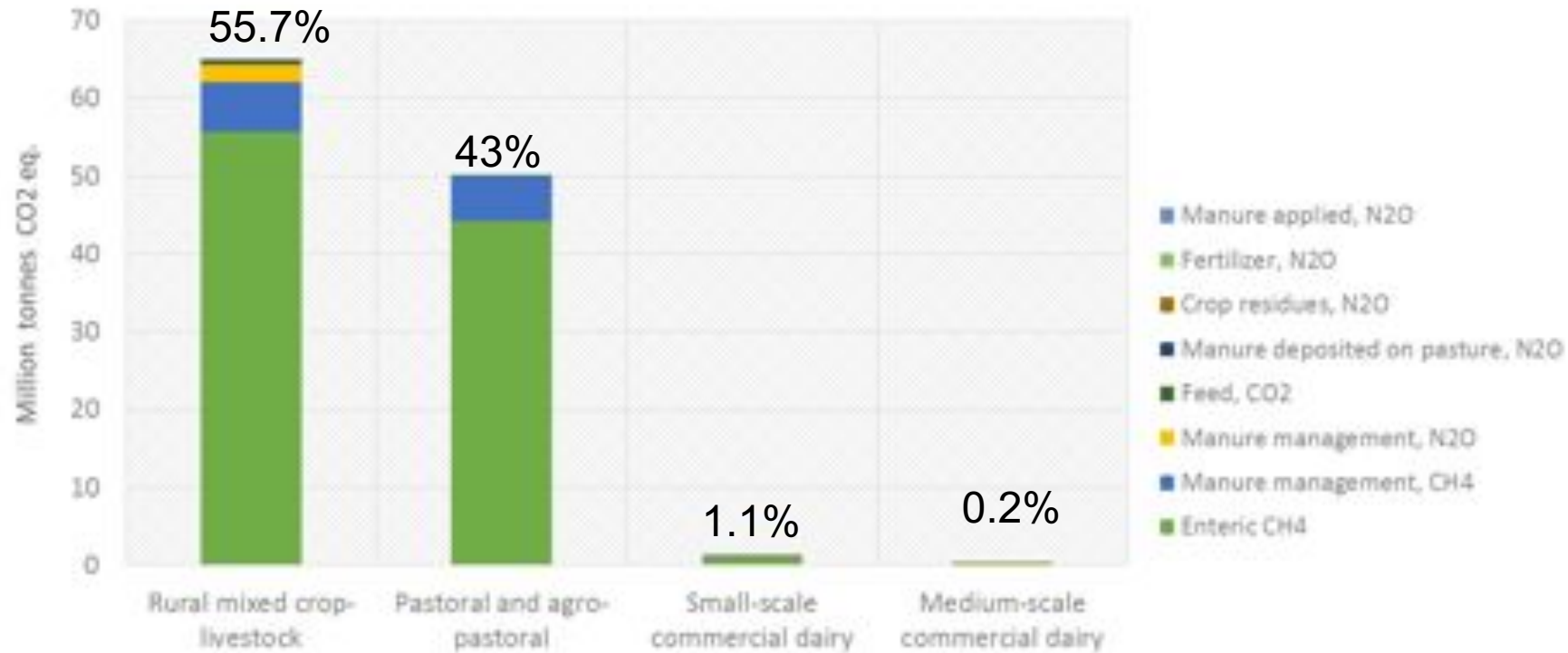
EFFICIENCY IN DAIRY SYSTEMS IN ETHIOPIA: EMISSION INTENSITY AND MILK YIELD



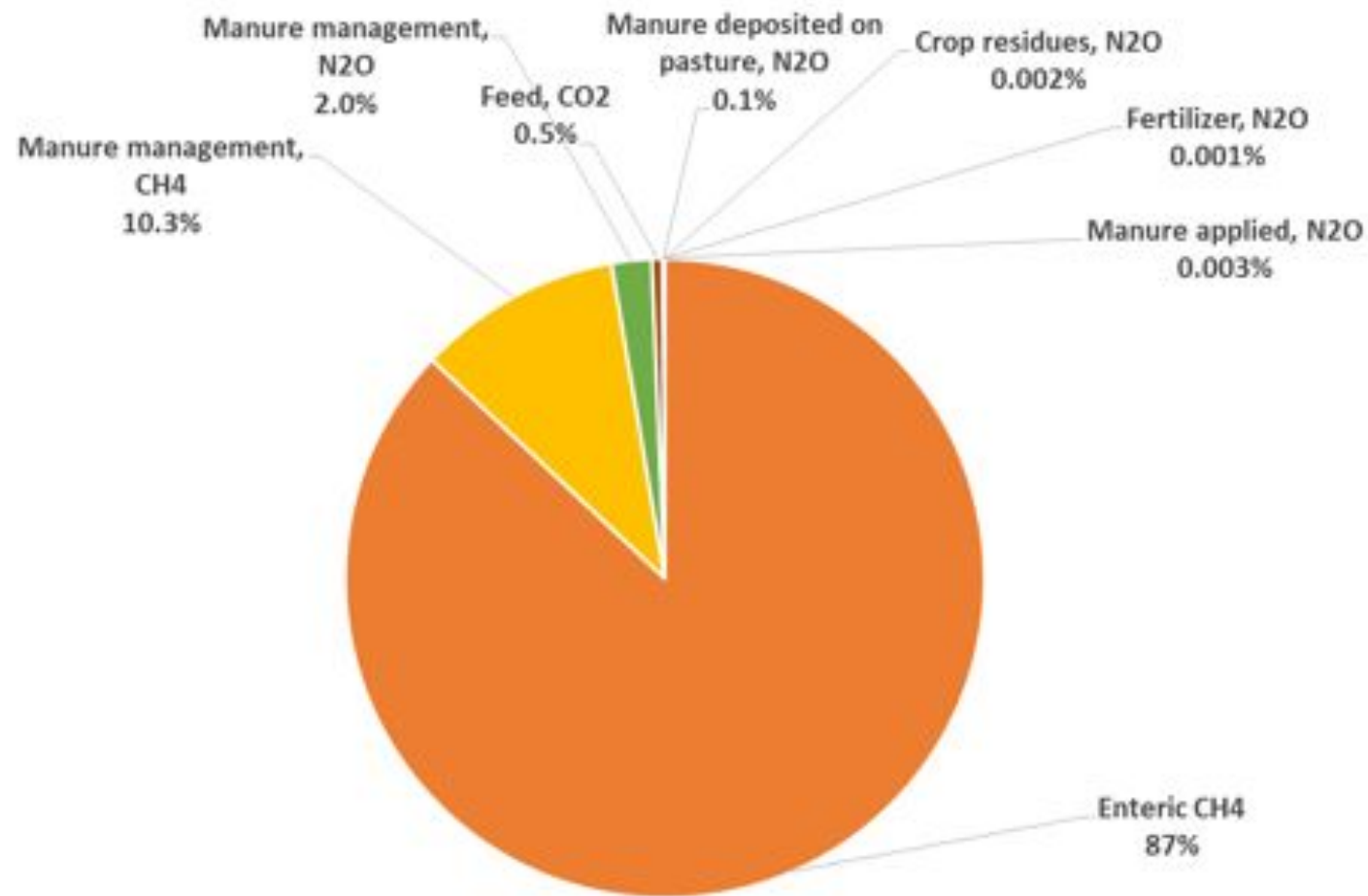
CONTRIBUTION OF ETHIOPIAN DAIRY SECTOR TO EMISSIONS: 161 MILLION TONNES CO₂ eq. PER ANNUM



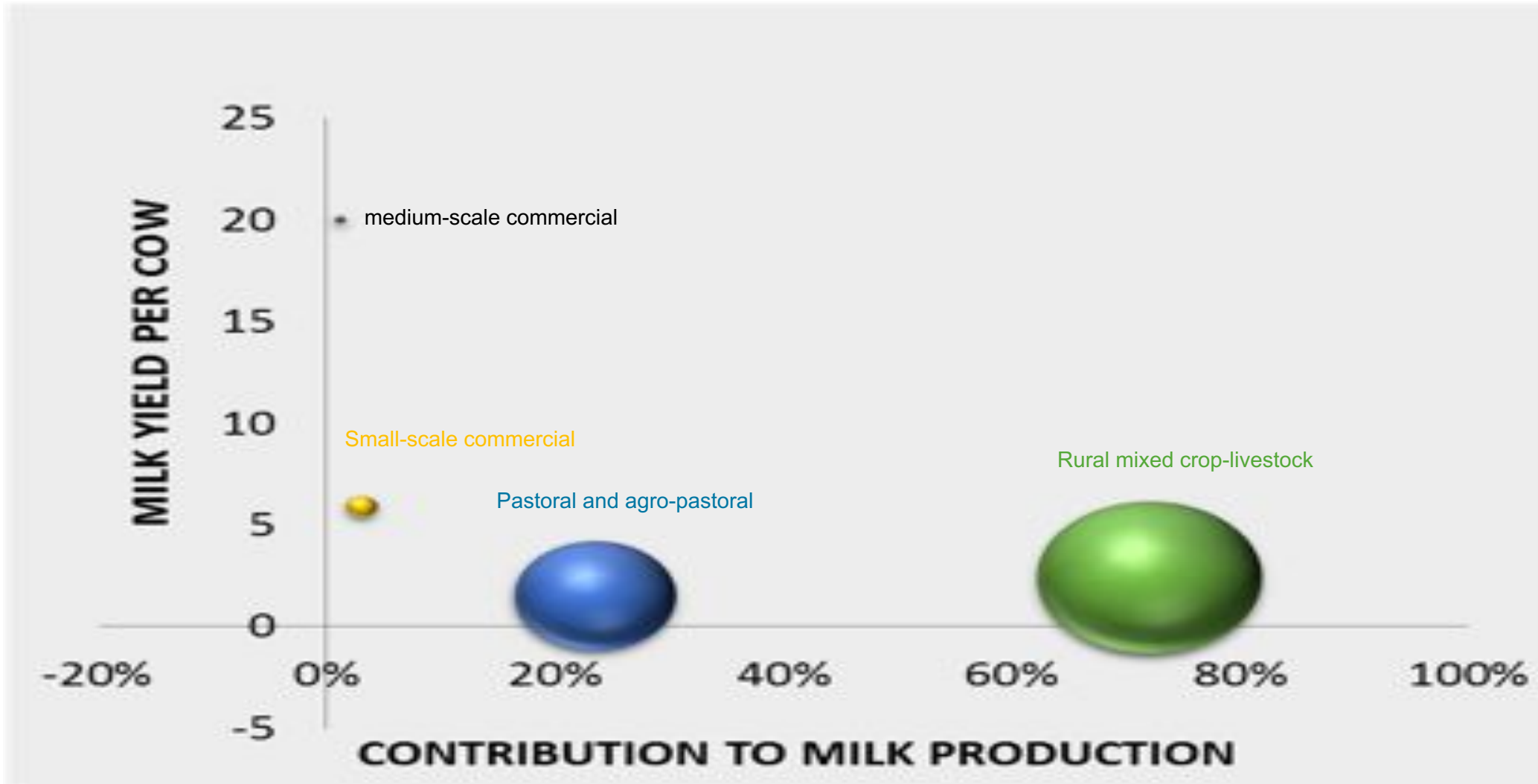
CONTRIBUTION OF ETHIOPIAN DAIRY SECTOR TO EMISSIONS by production system: 161 MILLION TONNES CO₂ eq. PER ANNUM



CONTRIBUTION TO EMISSIONS BY SOURCE



MILK PRODUCTION IN ETHIOPIA: 3.8 BILLION LITRES OF MILK FROM DAIRY CATTLE HERD



Size of bubble: number of milking cow



CONSTRAINTS LIMITING MILK PRODUCTIVITY



- Feed constraints
 - feed availability - dependent on rain-fed forage - feed availability highly seasonal
 - low forage quality
 - poor access to quality feed
 - high feed costs
- High incidence of disease (fertility, milk production, growth rates): FMD, Mastitis, Trypanosomosis, Bovine tuberculosis, etc
- Poor management and limited know-how
- Inadequate extension, vet services, high cost of credit
- Water availability and quality



SELECTED TECHNICAL MITIGATION INTERVENTIONS

Practice	Objective	Constraint addressed	Benefits ¹ .
1. Supplementation with leguminous shrubs	Improve management of forage resources by better matching available resources to animal requirements/herd nutrient demand	Addresses feed scarcity and quality constraints	Improved animal and herd health Higher conception rates Improved weaning weights
2. Use of urea-molasses multi-nutrient blocks (UMMB)	Increase quality of diet	Low quantity and quality of forage	Improved nutrition Increased intake Improved growth rates
3. Use of urea-treated crop residues			
4. Supplementation with low-cost high protein/energy concentrates	Address energy and protein constraints during periods of low availability and quality	Addresses the lack of sufficient and quality feed resources.	Improved nutrition Improved cow condition Improved reproductive performance Higher conception rates
5. Disease control (trypanosomiasis)	Improve the health status of the herd	High mortality and morbidity	Reduction in mortality and morbidity Increase in animal productivity Improvements in reproductive performance (fertility, age at first calving)
6. Use of sexed semen	Use of sexed semen can provide an increased supply of replacement heifers, thereby reducing dairy heifer purchase costs	Shortage of replacement heifers	Better management of heifer replacement Reduction in cost for heifer purchase Genetically superior females
7. Conventional artificial insemination using superior genetics	Increase the number of high yielding animals through genetic management to improve production and reproductive traits such as	Milk production constrained by low productivity of the indigenous cattle breeds.	Improved conception rates, calf survival Increased weaning weights Increased final weights

SELECTED TECHNICAL MITIGATION INTERVENTIONS

Practice	Benefits
1. Supplementation with leguminous shrubs	Improved animal and herd health Higher conception rates Improved weaning weights
2. Use of urea-molasses multi-nutrient blocks (UMMB)	Improved nutrition Increased intake
3. Use of urea-treated crop residues	Improved growth rates
4. Supplementation with low-cost high protein/energy concentrates	Improved nutrition Improved cow condition Improved reproductive performance Higher conception rates
5. Disease control (trypanosomiasis)	Reduction in mortality and morbidity Increase in animal productivity Improvements in reproductive performance (fertility, age at first calving)
6. Use of sexed semen	Better management of heifer replacement Reduction in cost for heifer purchase Genetically superior females
7. Conventional artificial insemination using superior genetics	Improved conception rates, calf survival Increased weaning weights Increased final weights

THANK YOU

