

LIVES Project in Ethiopia

Dairy Value Chains Development Component

On-farm hormonal oestrus synchronization and mass insemination of cows for smallholders in Ethiopia

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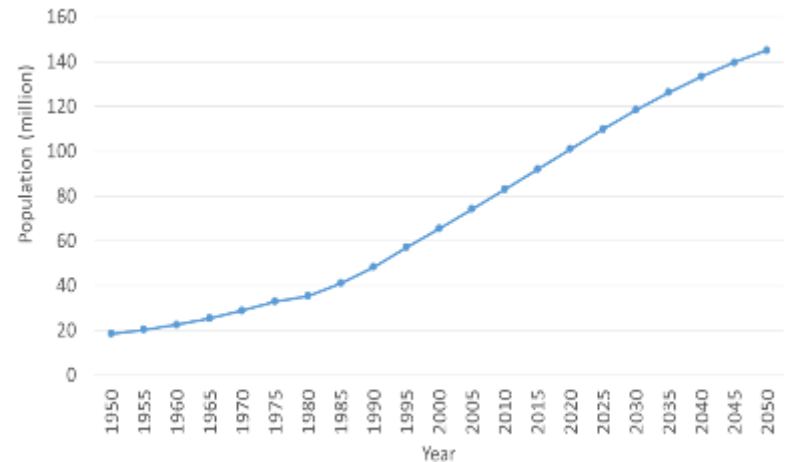
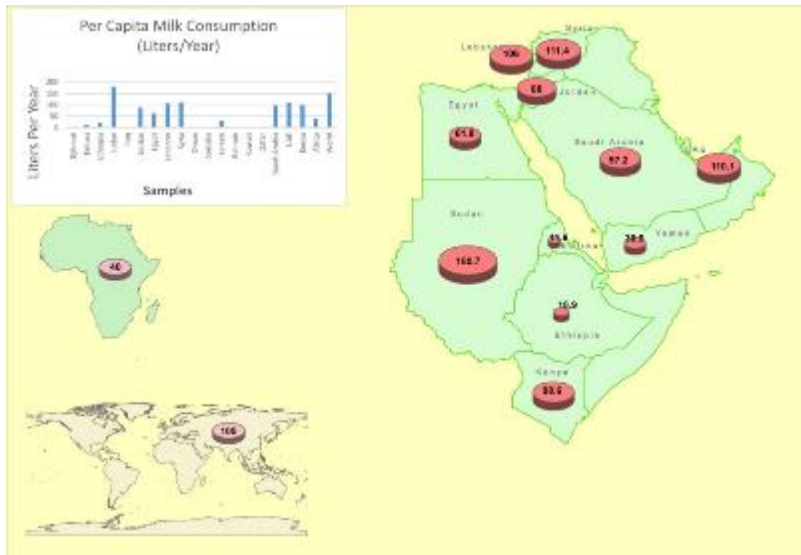
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Some Highlights on Dairying in Ethiopia

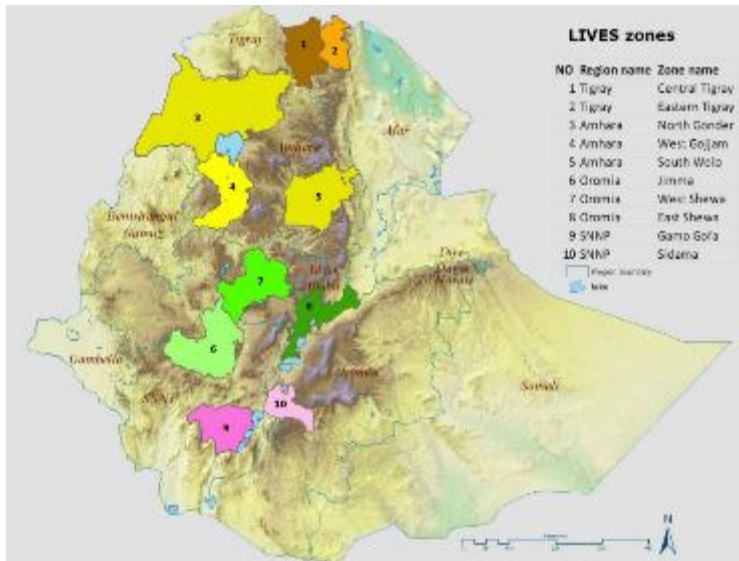
- **Cattle population** – 55 million; breeder local cow population – 12 million
- **Over 50 years experience in AI** for dairy genetic improvement
- **Only 750,000 (0.014%) crossbreds** and limited to urban and peri-urban areas



Source: UN World Population Prospects

LIVES Project – Four Regions and 10 Zones

Some resources in LIVES Project Zones



Resources	No.	Percent of national
Land area, km ²	153,723	13.6
Human population	5,084,899	6.9
Cattle	16,268,796	30.5
Sheep	7,570,770	29.8
Goat	5,094,065	22.5

LIVES rapid diagnostic study of the dairy VC

Potential for dairy development exists

Hindered by unavailability and high price (40,000 Birr (~2,000 USD) of crossbred cows

Limited access and poor performance of AI services

– high demand for improved cows!!

LIVES study shows low conception rate to AI - and revisited ILRI Studies in 80's-90's in search of solution

Location	No	Conception rate, %
Addis Ababa	87	40.2
SNNPR	84	33.3
Oromia	70	34.3
Tigray	70	7.1
Amhara	64	20.3
Total	375	27.1



On-farm oestrus synchronization and AI on indigenous cows owned by smallholders – Researcher-led approach (2008)



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However, researcher-led approach is not sustainable and practical for impact at scale and worked on changes in organizational and institutional arrangements for better service delivery



Change in Approach – Train and work with Federal and Regional Research and Development Partners



On-farm performance of oestrus synchronized cows in Tigray and SNNPR – with the new approach

Variables	Awassa-Dale Milkshed		Adigrat-Mekelle Milkshed	
	No.	%	No.	%
Total animals presented for synchronization	210	-	212	-
No. animals treated with PGF _{2α}	175	83.3	199	93.9
No. of cows that aborted after treatment	-	-	6	3.0
Final No. cows synchronized	175	100	193	97.0
No. of animals that responded to PGF _{2α} treatment	171	97.7	193	100.0
Animals that died (after insemination)	3	1.8	-	-
Animas that did show up for pregnancy diagnosis	5	2.9	-	-
Interval to oestrus, hours	NA	-	45.13	-
Pregnant animals	94	57.7	119	61.7

This was followed by another round of synchronization of 4,000 cows in four Regions – with overall pregnancy result of 55%.

Field visits and presentations to Presidents of Regional Governments - *Influencing at the highest level (Federal and Regional) for scaling out*



LIVES project and Federal MoA organized a **national workshop in July 2011** on

'Alternatives for Improving Field AI Delivery System to Enhance Beef and Dairy Production in Ethiopia' at ILRI, Addis

Key Output:

Agreement reached on **a major change in organizational and institutional arrangement** for delivery of improved dairy genetics to smallholder farmers.

Scaling out – Mobile crush and field operations with Regional research and development partner staff



Number of cows treated with hormone and inseminated in the four Regional States from 2011 to 2014

Region	2010/11	2011/12	2012/13	2013/14	2014/15	Total
Amhara						
• Planned	0	318	534	641	69,825	71,318
• Inseminated	0	318	479	515	67,895	69,207
						(97.1%)
Oromia						
• Planned	0	0	45,000	50,496	306,000	401,496
• Inseminated	0	0	43,861	45,837	193,533	283,231
						(70.6%)
SNNPR						
• Planned	210	22,264	39,042	31,545	53,083	146,144
• Inseminated	175	20,373	32,578	28,232	48,187	129,545
						(88.7%)
Tigray						
• Planned	13,190	17,031	36,781	37,461	46,252	150,715
• Inseminated	11,211	13,624	31,864	33,081	39,440	129,220
						(85.7%)
Total						
• Planned	13,400	39,613	121,357	120,143	475,160	769,673
• Inseminated	11,386	34,315	108,782	107,665	349,055	611,203
						(79.4%)

Source: Regional Bureaus of Agriculture (2015). Numbers in brackets are percentage achievements

NB: SNV partnered and supported synchronization work for 65,000 households

Challenges – Palpation of CL, estrus detection & PD Solution - New technologies tested – Hormonost® and BoviPreg



Cow-side progesterone assay for determination of estrus, cyclicity, pregnancy and embryonic loss of cows



BoviPreg for early pregnancy determination



Testing BoviPreg on farm

Some Potential Impact at National Level

Growth and Transformation Plan (GTP) II (2015/16 – 2019/20)

based on the LMP

Cow dairy development roadmap - developed with these specific targets:

- Synchronization and AI - **high IRR values (from 23.7% to 32.5%).**
- Target number of crossbred cows - **about 5 million in 5 years.**
- **About 1.3 million adopting farmers.**
- **Milk production** - increases by about **800%**
- **Double contribution to GDP.**
- **A total investment of ETB 146 million (7 M USD) committed** to improve the capacity in genetic improvement and AI system.

ILRI Recognized by the Government of Ethiopia – Certificates, Medal and Trophy



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