Complementing the global vision

agri benchmark Beef and Sheep Network

Claus Deblitz
Thünen Institute of Farm Economics

Rome
19.09.2013

Contents

1. The global perspective of *agri benchmark*
2. The unique data set we produce
3. What we can measure
4. Possible pilot projects

The global perspective of *agri benchmark*

agri benchmark – understanding agriculture worldwide

- Our core competence:
  Production systems and their economics
- An expert network which started in 2002 >>> more than just data
- Global, non-profit, independent >>> credibility
- Standardised methods >>> global comparability
- Reflecting framework conditions and drivers >>> comprehensiveness

Research partners of the Beef and Sheep Network

Charles Sturt University

mla MEAT & LIVESTOCK AUSTRALIA

Meat Board of Namibia

National Agricultural Marketing Council
Strategic positioning of South African Agriculture in dynamic global markets

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA
UFS UV

DLG

HOMINEM ET AGRUM COLERE CUPIO

CAN FAX

cca

FAUBA

EBLEX THE BEEF & LAMB SECTOR COMPANY

Tragsatec Grupo Tragsa

MINISTERIO DE AGRICULTURA, ALIMENTACIÓN Y MEDIO AMBIENTE
SECRETARÍA GENERAL DE AGRICULTURA Y ALIMENTACIÓN
DIRECCIÓN GENERAL DE PRODUCCIONES Y MERCADOS AGRARIOS

KANSAS STATE UNIVERSITY DEPARTMENT OF AGRICULTURAL ECONOMICS
www.AgManager.info

CNA Brasil

cepea

Agriculture and Horticulture Development Board meat services

INSTITUT DE L'ELEVAGE

NOVUS ORSUS

TAURUS

agralys

teagasc
Agriculture and Food Development Authority

ARGE RIND

PLAN AGROPECUARIO

FEDEGAN FONDO NACIONAL DEL GANADO FNG

acepas

IAED 1958

Zachodniopomorski Uniwersytet Technologiczny w Szczecinie

ÚZEI

C.R.P.A.

المعهد الوطني للبحث الزراعي
Institut National de la Recherche Agronomique

ROYAUME DU MAROC
Ministère de l'Agriculture et de la Pêche Maritime

LUCHAR PARA LOGRAR
UNIVERSIDAD AUTONOMA DE CHIHUAHUA

IKAR

ЕКОНИВА ЭКОНИВА

Why global farm-level benchmarking?

- We are all directly or indirectly linked via markets and product flows
- Decision making is done by millions of producers every day
- It needs an approach in close cooperation with producers
- On global scale there is a lack of comparable farm data
- Collecting and comparing this data and information assists in

  Understanding agriculture worldwide

  – Know **where** you are

  – Learn **why** you are where you are

  – Conclude **what** can be changed to develop

Analysis and projects

Comparative global analysis of

- Productions systems
- Economics
  (cost of production, prices, profitability)

Policy analysis (what-if)

Farm strategy analysis (what-if)

Emission analysis
(+ environmental indicators)

Close cooperation with producers and advisors

The unique set of data

4	Comparison of finishing farms 2011 in US$		AT-25F	AT-35	AT-120	AT-175T		DE-260	DE-280	DE-285	DE-525T
306	5	Cost figures									
307	5.1a	Total cost of the beef enterprise by factor an	1.064	730	701	590		526	524	471	487
308		Non-factor costs incl. depreciation	775	486	537	441		390	411	359	386
309		Total labour cost	181	173	96	95		83	63	55	49
310		Total land cost	92	38	35	25		29	30	43	30
311		Total capital cost	15	33	33	30		23	20	14	22
312	5.1b	Total cost of the beef enterprise by factor and Non-factor costs - percentage composition									
313		Non-factor costs incl. depreciation	73%	67%	77%	75%		74%	78%	76%	79%
314		Total labour cost	17%	24%	14%	16%		16%	12%	12%	10%
315		Total land cost	9%	5%	5%	4%		6%	6%	9%	6%
316		Total capital cost	1%	5%	5%	5%		4%	4%	3%	4%
317	5.2a	Non-factor costs by animal purchase and oth	775	486	537	441		390	411	359	386
318		Animal purchases	323	179	172	160		144	139	65	227
319		Other	452	307	364	281		246	272	294	160
320	5.2b	Non-factor costs by animal purchase and other - percentage composition									

Countries in the *agri benchmark* Network

2013	Countries	Farms
Cow-calf	23	56
Beef finishing	29	70
Sheep	15	30

New countries 2013
Ireland (beef/sheep)
Uruguay (beef/sheep)
China (sheep)

Participating countries 2013

Contacts for further growth

Typical farms – the principle

Imagine you have a guest from a foreign country who is interested to see how **sheep** farming is done in your country.

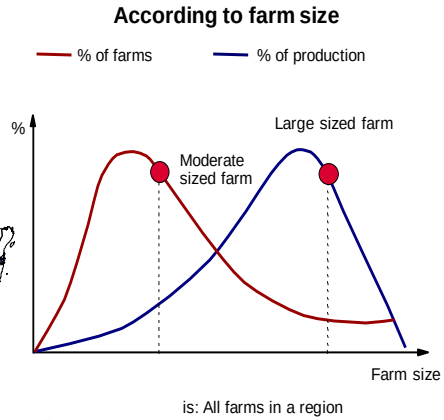
You would want to show your guest a farm that is

- … located in an **important** sheep producing **region**,
- … using the **common technology** for sheep production,
- … running the **prevailing** production **system**,
- … having a not too small and not too big **size**,
- … using the prevailing combination of **labour**, **land** and **capital**.

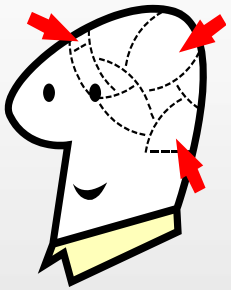
In other words, you want to show your guest a typical farm!

Typical farms – three sources of data

- **Statistics** available to determine
  - > important regions
  - > farm sizes and distribution



- **Focus groups** of producers and advisors to
  - > define prevailing production systems
  - > collect data in a standardised way



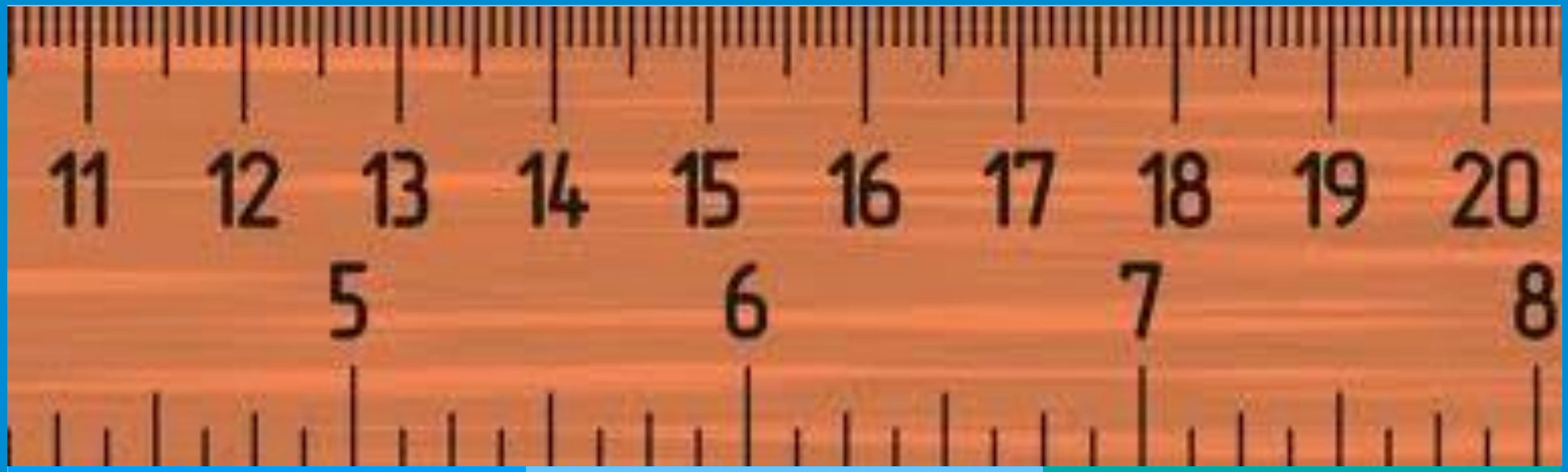
- **Expertise** of researchers + advisors + farmers
  - > Production system knowledge
  - > Explore adjustments to changes in frame work conditions (forward looking results)

Types of farms covered

- So-called ‘smallholder farms’, typically in mixed faming situations (Indonesia, China)
- Small family farms with non-ag income on-farm, for example forestry, tourism + off-farm income (Austria)
- Full time family farms without employees (everywhere)
- Family farms with permanent employees (Western Europe)
- Large commercial farms with permanent employees (Eastern Europe)

- Specialised farms (feedlots)
- Mixed farms
  (cow-calf + beef finishing, crop + bf, dairy +bf, crop + sheep ...)

What we can measure



The data covered in the production system

Animals

Breeds

Categories

Suckler-cows	cull, breeding
Breeding bulls	
Female calves	slaughter, breeding fattening
Male calves	
Heifers < 1 year	cull, breeding, fattening
Heifers 1-2 years	
Heifers > 2 years	
Fattening bulls	
Fattening steers	
Fattening heifers	
Fattening cows	
Fattening calves	

Performance

2 cow mobs

Cull %
Mortality
Age at first calving
% artificial insemination
Weights

5 finishing groups

Age at start
Age at end
Weight at start
Weight at end
Daily weight gain
Dressing percentage
Mortalilty

Feeding

tons per category and year

Home-grown feed
Purchase feed

5 feeding periods per group

Kg per animal and day

Home grown feed
Purchase feed

Key output indicators – physical

FACTOR PRODUCTIVITY	ANIMAL PERFORMANCE	FEED PRODUCTION / FEEDING	ENVIRONMENT
• Labour productivity (kg live / carcass weight per hour) • Stocking rates (Livestock units per hectare) • Land productivity (kg live / carcass weight per hectare)	• Herd structure • Replacement rates • Mortality • Weaned calves per cow • Weaned lambs per ewe • Daily weight gain • Dressing percentage • Carcass weight	• Nitrogen use • Yields • Losses • Own feed • Purchase feed (forage, grains, by-products) • Feed rations per animal • Feed conversion	• Manure systems • Feeding systems • Animal performance • Feed production GHG EMISSONS • Enteric fermentation • Manure storage and spreading • Feed production • Carbon sequestration TO BE ADDED in 2014: • Water use • Nutrient flows • Energy use

Possible pilot projects

Possible pilot projects beef cattle – using indicators from efficiency matrix

	Namibia	South Africa	Brazil	Uruguay	Indonesia
Livestock					
Low calving rates	●			●	●
High mortality		●			●
Low weaning rates	●	●		●	●
Low growth rates	●		●		●
Low carcass weights					●
High GHG emissions	●		●		
Land					
Low forage yields		●	●	●	●
Low land productivity	●	●	●	●	●
Overgrazing	●		●	●	
Degradation					
Land use change			●		
Institution	N. Meat Board	UFS / NAMC	CEPEA / USP	Plan Agropecuario	UQLD + partners
Funding	?	?	?	?	Indobeef (ACIAR) application phase

Possible pilot projects sheep and dairy – using indicators from efficiency matrix

	Algeria	Morocco	China	India-Dairy
Livestock				
Low lambing rates			●	low milk yields
High mortality				
Low weaning rates			●	
Low growth rates	●		●	
Low carcass weights		●		
High GHG emissions	●		●	
Land				
Low forage yields				●
Low land productivity	●	●	●	●
Overgrazing	●	●	●	
Degradation			●	
Institution	INRAA	INRA	Un. Inner Mongolia	IFCN
Funding	?	?	?	Industry

Conclusions

- *agri benchmark* offers a global platform for farm level analysis within the Agenda
- More environmental indicators must be added during the process
  … but our new tool has already made prerequisites for most
- Subsistence or semi-subsistence farming situation can be added
- Drivers, incentives and decision making must be reflected
- Pilot projects should be aligned with gaps present in GLEAM
  … and add experience from other livestock projects
- Economics has to be added sooner than later

agri benchmark

– passionate about facts

Claus Deblitz

Thünen Institute of Farm Economics
Bundesallee 50, 38116 Braunschweig
Germany

Tel.: +49-531-596-5141
Fax: +49-531-596-5199
E-mail: claus.deblitz@ti.bund.de
Internet: www.agribenchmark.org
www.ti.bund.de/bw