HAY PRODUCTION AS A BUSINESS FOR FORMER STREET CHILDREN IN KENYA

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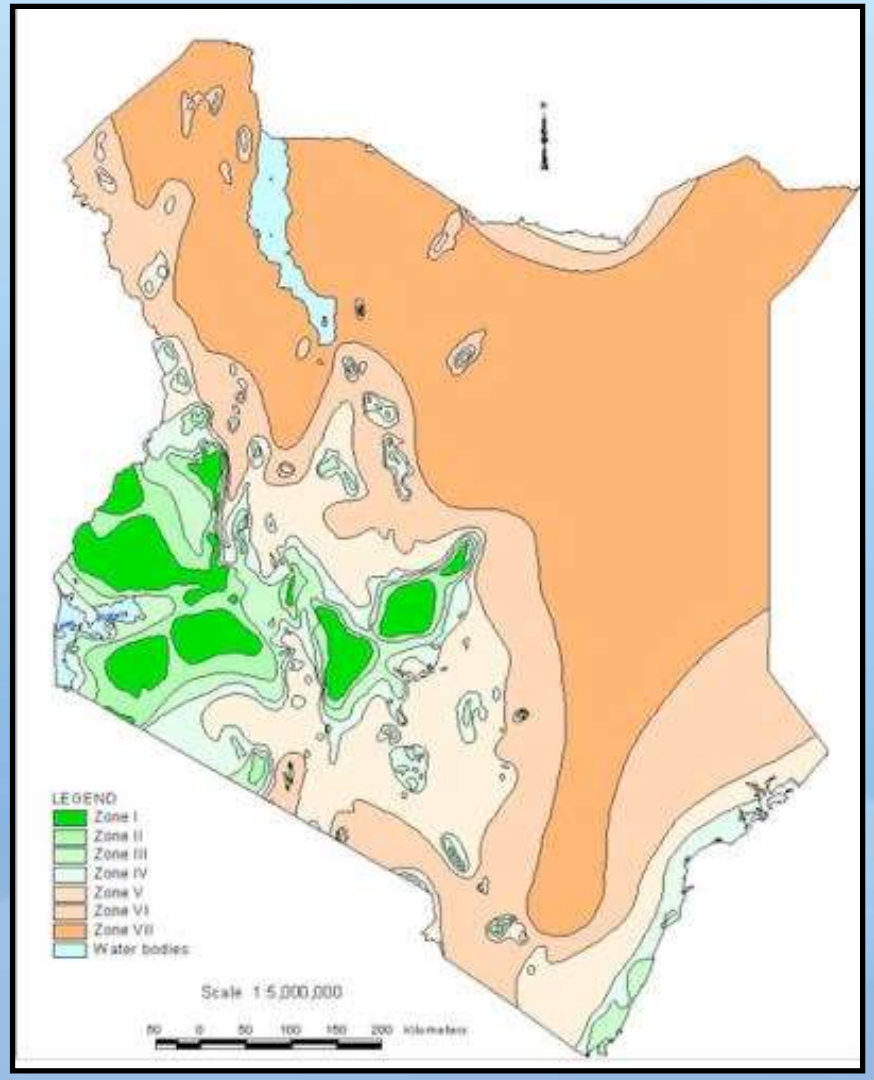
Kenya

Population 45 million
42% younger than 15
24% urban, 76% rural (2011)

Urban population growth 4.36% p.a. (2010-15)

Unemployment 40% (2008 est.)

Estimated 250,000-300,000 street children, among which 60,000 in Nairobi (IRIN, 2007)



CIA World Factbook – accessed Oct 21st, 2014
IRIN, 2007. Youth in Crisis – Coming of Age in the 21st Century.

Street Children

"a street child…is any girl or boy who has not reached adulthood for whom the street (in the widest sense of the word, including unoccupied dwellings, wasteland, etc) has become her or his habitual abode and or source of livelihood and who is inadequately protected, supervised, or directed by responsible adults"

(Le Roux, Winter 1996).

Effects of Life on the Street

NEGATIVES

- ✓ Poor emotional and cognitive development
- ✓ Role models are the strong and aggressive
- ✓ Trauma and violence is part of life
- ✓ No concept of time
- ✓ Depression and apathy are common
- ✓ Accepting of fate

POSITIVES

- ✓ Companionship is highly valued
- ✓ Work in groups to make + share profit, protection
- ✓ Know about numerous coping strategies
- ✓ Independent
- ✓ Resilient
- ✓ Understand human nature

Reputation of Street Children

Criminals

Violent

Poor

Drug addicts

Pre-marital pregnancy

Unsanitary

Rude

Uncivilized

Untrustworthy

Children and **Y**outh **E**mpowerment **C**enter

a public-private partnership to meet standards of service, program sustainability, and successful exit

Intake
(Drop-in Center)

Primary Care
(CYEC)

Program Exit
(Zawadi Village)

Housing

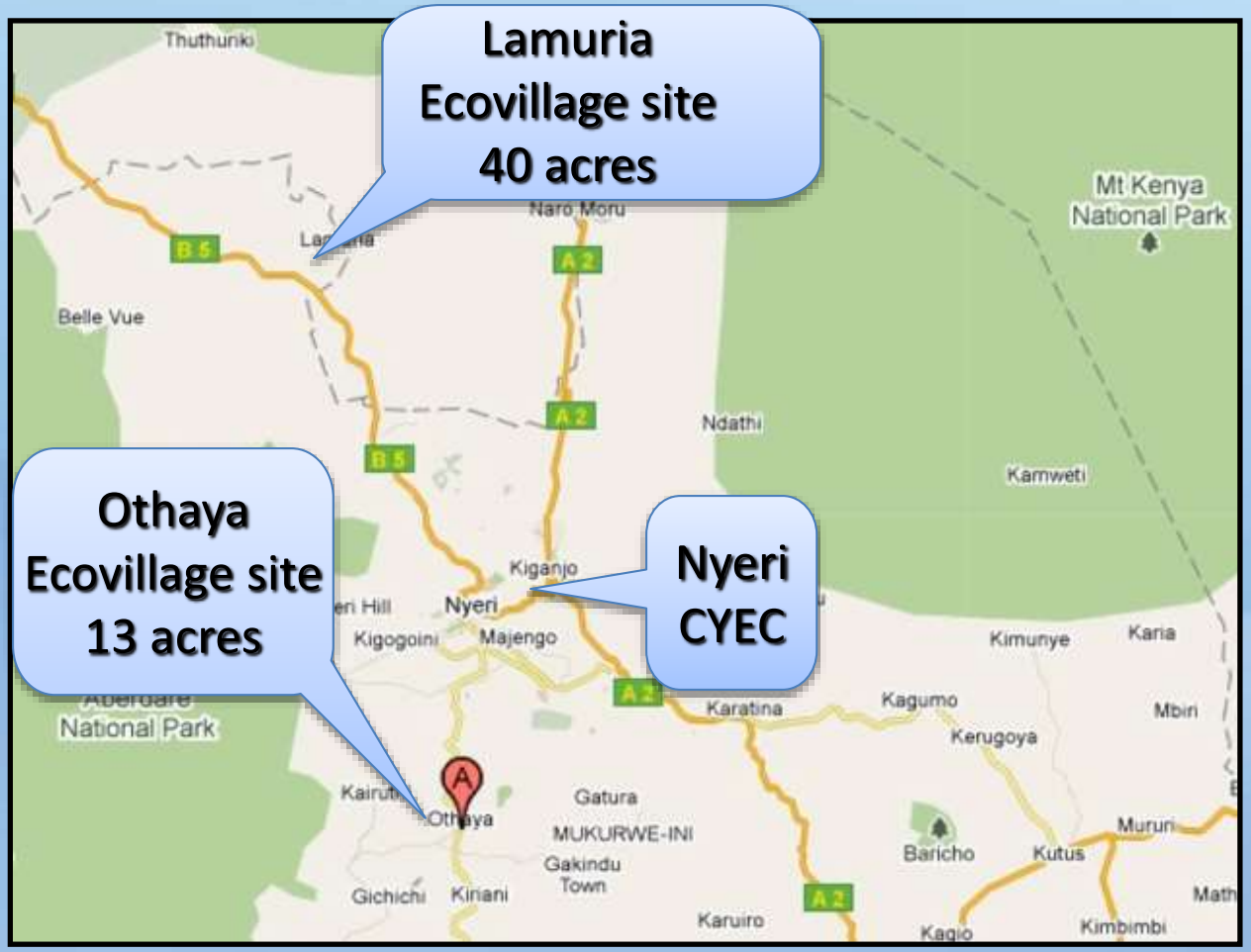
Education

Health care

Zawadi ‘Gift’ Ecovillages

- Exit avenue for CYEC
- Economically self-sustaining Incubator of business enterprises in:
    - Agriculture
    - Tourism
- Model of sustainable development to surroundings:
    - Appropriate technologies
    - Entrepreneurship
    - Land use and community planning

Centre and Ecovillage Locations



Lamuria

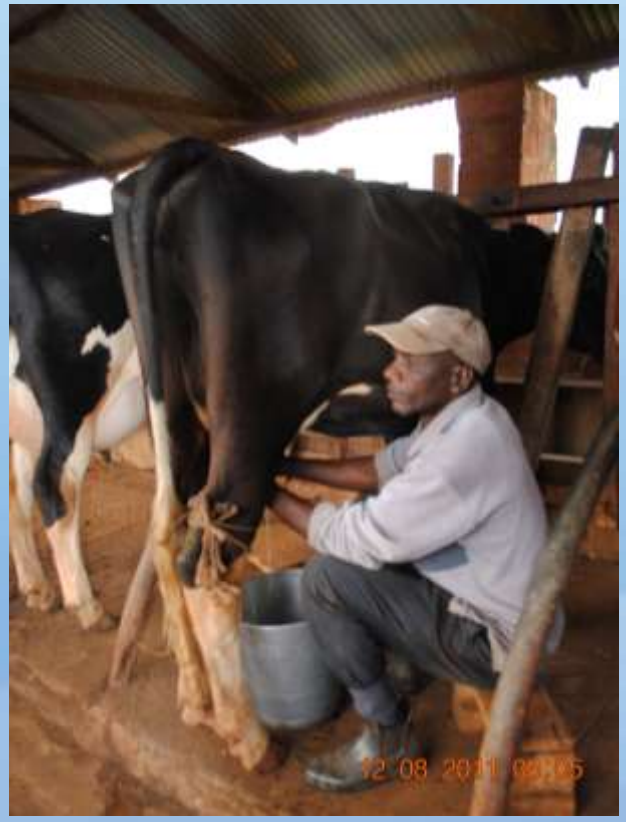
- 2000 m altitude
- 600mm annual precipitation, bimodal, highly variable
- Soil w. vertic properties
- Subsistence ag (some marketing)
- Livestock grazing
- Honey production
- 10% with irrigation
- Maize, green beans, lima beans, wheat,
- potatoes, cabbage, onions, tomatoes, peas
- Potential for eco-tourism

Hay baling as a business in Lamuria – why?

- Price of hay in nearby Nyeri high ($2.35-$3.50/15 kg square bale)
- Dryland crop production risky
- Indigenous grasses are plentiful and can be very productive
- No need for annual tillage for establishment

The Thriving Kenyan Dairy Industry: The reason for hay demand

- One of Largest in Sub-Saharan Africa
- KSH100 billion/yr ($1.2 billion) (horticulture KHS 65 billion, tea KSH 47 billion in 2007), 3-4% growth
- 600,000 smallholders produce 70% of country's milk, 56% of which is sold raw
- Kenya is self-sufficient in milk



Dairy Master Plan, 2010; Dairy Report, 2005

Kenya Dairy Systems

Intensive - 2.5 million

- Urban/periurban, rural highlands
- Typically 2-3 cows, 1 ha/farm, zero-grazing, exotic breeds/crosses, high milk production, manure collected, integrated in market

Semi-intensive - 5.3 million

- Rural/periurban,
- Typically 15 + cows, 1-15 ha farms, cattle paddocked, tethered, herded, zebus/crosses, low milk production, manure not typically collected, not integrated in market

Dairy Master Plan, 2010; Dairy Report, 2005

Dairy Farmer Survey, Nyeri, May 2014

7 dairy farmers

1-7 cows (average 3.1)
0-8 goats+sheep (average 3.4)

Vanessa Rickenbrode and Asa Walker. Dairy Farmer Survey, Nyeri May 2014, n=7

Hay and Silage produced or purchased?

- 57% of farmers harvest their own hay
- 71% of farmers buy hay
- 42% of farmers make silage

Vanessa Rickenbrode and Asa Walker. Dairy Farmer Survey, Nyeri May 2014, n=7

Source of Purchased Hay

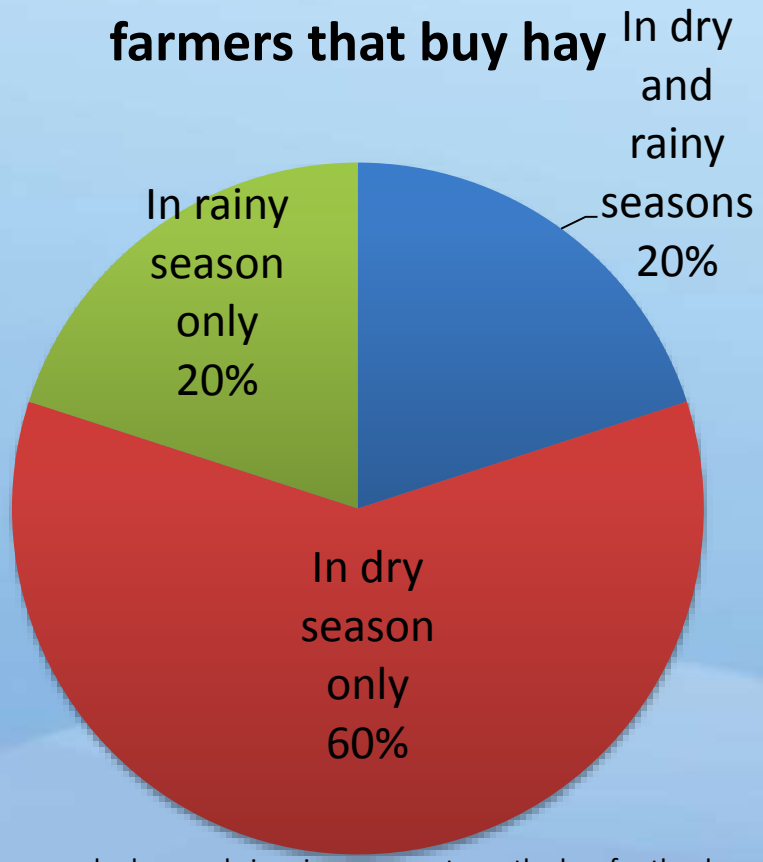
- 42% buy from middlemen that drive lorries around town
- 28% buy from hay stores in Nyeri

Vanessa Rickenbrode and Asa Walker. Dairy Farmer Survey, Nyeri May 2014, n=7

Seasonality of hay pricing and purchasing

Prices

- rainy season KSH 200-250 ($2.35-2.94)
- dry season KSH 250-300 ($2.94-3.53)



The farmer who buys only in rainy season stores the hay for the dry season because he has space and can buy cheaper in rainy season

Vanessa Rickenbrode and Asa Walker. Dairy Farmer Survey, Nyeri May 2014, n=5

Quality of Hay

- 60% care about quality (want Boma Rhodes grass hay)
- 40% buy whatever they can get/afford

Vanessa Rickenbrode and Asa Walker. Dairy Farmer Survey, Nyeri May 2014, n=5

Quantity of Hay Needed

- 2 farmers mentioned they feed ½ a bale of hay to a cow per day, either mixed with napier grass or calliandra and desmodium
- This would mean needs average 3 cows/farm x ½ bale x 180 days/yr = 270 bales/yr

Vanessa Rickenbrode and Asa Walker. Dairy Farmer Survey, Nyeri May 2014, n=7

Affordable technology for haybaling

Scythe

Manually operated haybaler

Developing Hay Baling into a Business

Training workshop – Dec 2011

Source and price materials for baler

Youth organized haybaling team

Learning about the haymarket

Youth developed marketing strategy – make haybales for local farmers, get paid by the bale.

Zawadi society developed strategy for payment, services, %contribution

Youth collect data for business evaluation

Input costs

Scythe blade - $65
Scythe snath - $ 60
Hammer - $ 29
Anvil - $10
Whetting stone - $8
Holder $12

Materials baler - $130

Costs and returns of 2 haybaling jobs

Table 3. Area mowed and baled, gross revenue, costs, and net revenue of Zawadi Haybaling Team in Mweiga and Niarifu, Kenya, January/February 2011

	Mweiga	Niarifu
Acres mowed and baled	4.5	5
Days worked @ 8 hrs/day	15	15
Bales produced	362	177
Payment per bale (KSH)	80	90
Revenue (KSH)	28,960	15,930
Lodging expenses (KSH)	0	0
Repairs (KSH)	1200	600
Supplies (KSH)	0	1500
Number of youth in team	4	4
Payment to CBO (KSH)	4000	2000
Savings for future (KSH)	3000	0
Net revenue pp per day (KSH)	396	222
Comments	Good grass stand - level surface with few rocks and shrubs. Lodging in field. Farmer provided twine.	Poor grass stand, rocky, shrubs. Lodging 5 km from field. Some rainy days unable to make hay.

1 acre = 0.405 ha. Exchange rate - US$ 1 = KSH 84 (July 2012)

Summary of 9 jobs in 2012 and 2014

- Mt Kenya area
- 173 mandays worked
- 1195 bales made
- Custom rate $0.95-$1.05/bale
- Av net revenue/pp/day $3.94
- Av # bales made/pp/day = 5.3

Some Observations on Design of Agricultural Businesses for Disadvantaged Youth

Start small – small grants better than large at beginning

Long-term continuity – took from 2009 – 2012 to get started

Expertise and open mind for different areas

Hands – on training essential

Ownership by youth – leadership, money mgt, distribution of revenue

Record keeping to evaluate profitability

Mentoring relationship between youth and professionals

Local supporting infrastructure (CYEC and CBO)