## that

GLOBAL SEMINAR
ON CROSS COUNTRY RUNNING

Belgrade, Serbia - 9 December 2013

Welcome

## ESSAR GABRIEL

 IAAF General Secretary
## Introduction

SEBASTIAN COE IAAF Vice President

## Seminar Agenda

9:00 Introduction by the Chair, Sebastian Coe
9:20 Cross Country Running as a Unique Discipline
9:50 Cross Country Running as a Means to Track/Road Success Round Table Discussion

## 10:40 A Coaches Perspective to Cross Country Running BREAK

11:30 A Physiological and Philosophical Perspective to Cross Country running
12:10 Participation at the IAAF World Cross Country Championships LUNCH
14:15 The Future of Cross Country Running
Round Table discussion
15:30 Conclusions and Wrap Up
16:00 END

## Annette Sergent (FRA)

"Running cross country means, for me, more freedom. I like running with nature, discovering different courses; / feel free of the stopwatch and much closer to my feelings. In competitions, I like the 'team spirit' and the cheering crowds."


## Annette Sergent (FRA)

First steps
At the age of 10 , I won a school cross country race and the sports teacher asked me to join the athletics club.

Basic Training
I practiced all disciplines; running, jumping, throwing in summer and cross country in winter.

## Second steps (1980-1986)

Cross country as winter preparation to get results on the track

## Annette Sergent (FRA)

## Benefits:

- Base training
- Development of natural muscle strength
- Maintain training standards whilst enhancing aerobic activity
- Establish short and mid term goals for self motivation
- Team spirit development

Develop mental strength:

- Learn to adapt to difficult and changing circumstances
- Learn to trust your instincts
- Forget the stopwatch
- Listen to your body
- When to go fast
- When to hold back


## Annette Sergent (FRA)

Good results on the track

- National records and titles
- International team selections
- Olympic Games participation at age 22


Third Steps (1986 to 1990)

## Cross country as a means in itself

## Annette Sergent (FRA)

## Why?

- 1985 1st victory in a national cross country race
- 1986 World cross country bronze medallist
- 1986 disappointing track season (injured and $8^{\text {th }}$ in EC at 3000 m )
- I like this event!!!


## Annette Sergent (FRA)

## How?

- More specific and intense training
- Attendance at Training camps in optimum conditions Warm climate, synthetic track, healthy living etc...
- International cross country meetings

1987
$1{ }^{\text {st }}$ World Cross Country Title


## Annette Sergent (FRA)

## Cross Country Results

- regular, individual ( $3,1,3,1$ ) and team ( $2,3,2,3$ )
- with great track and road champions
I. Christiansen (14'37/ 30'13), O. Bondarenko, D. Tulu, R. Mota, L. McColgan (14'59 / 30'57), L. Jennings (15'11 / 31'20), L. Williams , S. Sirma (15'03 / 8'39), J. Ngotho, M. Puica.


## Annette Sergent (FRA)

Track results

1990 bronze medallist
European Championships


## Annette Sergent (FRA)

## Finally

"Running cross country means, for me, more freedom. I like running with nature, discovering different courses; I feel free of the stopwatch and much closer to my feelings. In competitions, I like the 'team spirit' and the cheering crowds."

It brought me:-

- Recognition as an international athlete
- Confidence
- Financial comfort and support to pursue training
- Fame

11 international championship medals:
2 World Cross Country Titles, 1987 and 1989
2 times World Cross Country Team Silver medalist (1987-1989)
2 World Cross Country bronze medals
3 World Cross Country team bronze medals
1990 10,000m European Championship bronze medallist
32 French team selections including:
3 Olympic Games Team Selection (84-88-92)
21 National Champion titles (from 1981 to 1995)
Records:
1500m : $\quad 4: 10.14$
3000m : 8:44.19
$5000 \mathrm{~m}: \quad 15: 11.44$
$10,000 \mathrm{~m}$ : $\quad 31: 51.68$
Half-marathon: 1:11.21
Marathon: 2:39

## Craig Virgin (USA)

" Cross country was always my first love in running. It's a wonderful, cathartic experience! A pure feeling, being out in the country, especially in the fall when the weather is cool and the leaves change."


## Craig Virgin (USA)

"If I only had one more day to run.... I'd definitely make it a cross country race! Cross country was my first love.... and my best love.... in competitive running!"

## Benjamin Limo (KEN)

"In life the daily challenges and obstacles we face, are the key pillars to be strong and successful in the future.


## CROSS COUNTRY RUNNING AS SUCCESS TO TRACK AND ROAD RUNNING

## Outline

Successful male and female athletes in cross country and consequently, track and road running

Cross Country tactics that pay off in track and road running

## Cross Country and Track Success

Successful male athletes in cross country, and consequently, track stars

John Ngugi - Kenya

- 5 time Cross Country champion
- Seoul Olympic 5000 m gold medallist

Paul Tergat - Kenya

- 5 time World Cross Country champion
- 2 time World Half Marathon champion
- Former Marathon World record holder

Kenenisa Bekele - Ethiopia

- 6 time World Cross Country champion
- 3 time Olympic gold medalist
- 5 time World Champion
- World record holder - 5000 m and $10,000 \mathrm{~m}$


## Zedenay Tadese - Eritrea

- 1 time World Cross Country champion
- 5 time World Half Marathon champion


## Cross Country and Track Success

Succesful female athletes in cross country and consequently track and road running stars

Paula Radcliffe - Great Britain

- 3 time European Cross Country champion
- 3 time World Cross Country champion
- Marathon World champion
- Marathon World record holder

Tirunesh Dibaba - Ethiopia

- 5 time World Cross Country champion
- 5 time World champion
- 3 time Olympic gold medallist

Vivian Cheruiyot - Kenya

- 2 time World Cross Country champion
- 3 time World champion


## Cross Country Tactics

## CROSS COUNTRY TACTICS PAY OFF IN TRACK AND ROAD RUNNING.

Champions do not become champions when they win the event, but in the hours, weeks, months and years they spend preparing for it. The victorious performance itself is merely the demonstration of their championship character.
-- T. Alan Armstrong


## Cross Country Training

Consistent Mileage during Cross Country training helps build endurance which is useful for track and road running.

Cross Country Tempo Speed work and fartlek help the muscles and is vital for the finishing sprint in track and road running.

Hill Workouts training for Cross Country works the legs. Jogging down the hilly surface, too, to gives the quadriceps a good workout. The power built will be helpful in track and road running.

## Cross Country Terrain

Cross country terrain makes constant adjustments in balance, using more muscles because the ground beneath their feet is uneven. This will help build balance necessary for consistency running.


## Benefits of Cross Country

The benefits of cross country running are both mental and physical. A runner who runs in cross-country is more robust and more versatile, this help build endurances necessary for track and road running

Training and competing in cross country season provides tough physical training, working over a wide range of speeds and Endurances. This provides a good time records and event breaking a world record.

Quote
In life daily challenges and obstacles we face, are the key pillars to be strong and successful in future.

Benjamin Limo

## Paula Radcliffe (GBR)

"Cross country is the purest, simplest and most natural way of racing. There are no split times or pace makers, you run by feel and instinct, racing to your physical and mental limits and stretching the boundaries. A true cross country race tests all of these.


## Sonia O'Sullivan (IRL)



## Sonia O'Sullivan (IRL)

1987 Irish Cross Country Championships


## Sonia O'Sullivan (IRL)



1987 Cork City Sports, Irish Junior Record 3000m

## Sonia O'Sullivan (IRL)

1998 IAAF World Cross Country Championships, Short and Long Course Gold Medalist


## Sonia O'Sullivan (IRL)



1998 European Championships, 5000m and 10,000m Gold Medalist

## Sonia O'Sullivan (IRL)

## DOUBLE

## DOUBLE



## Sonia O'Sullivan (IRL)



2000 World Cross Country Championships, Vilamoura, $7^{\text {th }}$ Place Finish

## Sonia O'Sullivan (IRL)



2000 Olympic Games, Sydney, 5000m Silver Medallist

# A Coaches Perspective to Cross Country Running 

## Ibrahim Kipkemboi Hussein (KEN)

"Cross country is the cornerstone of
Kenyan athletics"

diliaf




## Background

Sports in Kenya is very much intertwined with culture

Athletics was formally organized in Kenya around 1922. It was introduced by the British

## Cross Country in Kenya

Kenya has dominated the IAAF World Cross Country Championships in the past quarter century.

The Kenyan men's team won 24 world championships, including 18 in a row until Ethiopia won in 2004-05.

The junior men's team won 23 titles since 1988, and the women's team has won four straight since 2009.

Junior women have won 15 world championships.
Five men have won individual world cross country titles in the men's division

## Cross Country in Kenya

Kenyan Coaches and Athletes have taken advantage of:
$>$ Environment (Terrain)
$\Rightarrow$ Surface
> Altitude
$>$ Season
$>$ Distances
$>$ Nature of Running (Team Event)
$>$ Training for Cross Country

## Kenyan Success

The IAAF started subsidizing the participation of developing countries in the World Cross Country Championships, Kenya began to take the event seriously.

The Federation started to make a big deal out of the National Cross Country Championship and set up a three-week training camp for the team before the Worlds - They way they had established a pre-Olympic camps but more thorough.

## Kenyan Success

Men:
John Ngugi, William Sigei, Paul Tergat, John Kiboen
Female:
Hellen Kimaiyo, Edith Masai, F. Kiplagat, Emily Chebet

Junior Men: Philip Mosima, Josphat Machuka, David Chelule, Dan Komen, Japhet korir
Junior Women: Lydia Cheromei, Sally Barsosio, Jebiwott Keitany, Rose Kosgei, Vivian, Viola Kibiwott, M Cherono, Faith Chepng'etich

## John Ngugi

## Kenya's Cross Country Legend!

5 times World Cross Country Champion and is considered one of the best cross country runners ever.


## John Ngugi

Ngugi was born in Kigumo Muranga district and later his family moved to Nyandaria district where Ngugi's career started to take shape.

Ngugi would run 10km a day to deliver milk from his parents farm. He was inspired to join the army by watching soldiers in Nyahururu train every day. In 1985 he joined the army where he joined team-mate Paul Kipkoech, a person with whom Ngugi's career was intertwined as they often placed 1-2 in races all over the world.

## John Ngugi

Ngugi won the first of his world cross country championships 1986. He went on to win 4 consecutive titles until 1989.

Ngugi had a reputation as fearsome front runner. He confirmed this reputation when he won the 1989 world cross country championships by 28 seconds. This is still to this date the largest margin of victory in that event.

He is a pioneer because his World Cross country win in 1986 came at a time when Kenya was starved of international success.

## William Cheruiyot Sigei



1993 and 1994 Champion 10,000m World Record 26:52.23 (1994)

## Paul Tergat

Kenya's Greatest Cross Country Runner 5 times World Cross Country Champion

## Paul Tergat

Tergat won five straight IAAF World Cross Country Championships titles, 1995 to 1999, which was a record.

World Records :
10,000 meter - 26:27.85, (in 1997)
Half Marathon - 59:17, (1998)
Marathon - 2:04:55, (2003 at Berlin)

Tergat once said, " Cross country is what I always liked most. It was my world, my passion. Before the IAAF introduced the short course in 1998, all the world class athletes from 1500 m to the marathon were in the same race."

## Vivian Jepkemoi Cheruiyot



## 2011 IAAF World Cross Country Championships, in the process assisted the Kenyan team to a team title.

## Vivian Jepkemoi Cheruiyot

Represented Kenya at the 2000 and 2008 Olympics. Had Silver in 2007 IAAF World Championships World champion in 2009

Silver at the 2010 IAAF World Indoor Championships African champion, Commonwealth Games champion and IAAF Continental Cup champion,

Holds the Commonwealth record for the 5000 m with her time of 14:20.89.

## Best of the Rest

Hellen Chepngeno

- 1994 Champion

Florence Jebet Kiplagat

- Two-time Champion 2009 and 2010
- Current $10,000 \mathrm{~m}$ Kenyan record holder with her best of 30:11.53 minutes.

Emily Chebet Mugei

- Two-time Champion 2010 and 2013.


## Factors contributing to Success

- The Kenyan rural terrain suitable for cross-country. The distant school boys girls cover daily to and from School, going uphill and downhill.
- Lifestyles of rural Kenyans and exposure in early life heading animals, hunting small game, a lot of walking (no cars, train, cycling)
- Cross is an aerobic event. Majority of the athletes lives in the high altitude areas of Rift Valley, Mt Elgon and Embu (between 2100 and 2500 m above sea level).
- There are a good number of cross-country events in Kenya that athletes can use for build up


## Factors contributing to Success

- Most athletes train as a group (Team) in schools, Military, camps/clubs hence comfortable running in great numbers.
- Rich cross-country history, a tradition set by Ngugi and Tergat (Role models or Idols).
- Easy and economical. Does not require well-to-do facilities in Rural settings. Use footpaths, roadsides, open trails cutting across grassland, forests etc.


## Cross Country Calendar

## NOVEMBER

| End of $1^{\text {st }}$ Week | $1^{\text {st }}$ Cross Country |
| :--- | :--- |
| Mid Month | $2^{\text {nd }}$ Cross Country |
| End Month | $3^{\text {rd }}$ Cross Country |

DECEMBER

| 1 st | Week |
| :--- | :--- |
| $4^{\text {th }}$ KCB/AK Cross Country Series Meeting |  |
| n $^{\text {th }}$ Week | KCB/AK Cross Country Series Meeting |

JANUARY

| $1^{\text {st }}$ Week | $6^{\text {th }}$ KCB/AK Cross Country Series Meeting |  |
| :---: | :---: | :---: |
| $2^{\text {nd }}$ Week | $7^{\text {th }}$ KCB/AK Cross Country Series Meeting |  |
| $3{ }^{\text {rd }}$ Week | AK Institutional Affiliates |  |
| Last week | Sub Regional Cross Country Championships | All Districts |
| FEBRUARY |  |  |
| $1^{\text {st }}$ week | Regional Cross Country Championships | All Provinces |
| A day before National XC | AK/AR Meeting |  |
| 3 rd Week | National Cross Country Championships Cum Trials |  |
| 3-4 Weeks | Residential Training Camp - World Cross Country Teams | Embu |
| MARCH |  |  |
| 6-5 days before | Departure of World Cross Country Team |  |
| Last Week | IAAF World Cross Country Championships |  |

## Hosting the IAAF World Cross Country Championships

Mombasa, Kenya successfully hosted the 35th Edition of the IAAF World Cross Country Championships on 24th March, 2007.

469 Athletes representing 64 countries participated in the event staged at the Mombasa Golf Club.
The theme for that event was 'Cross Country Comes Home' Kenya lived up to the theme with overwhelming victories in both the men's and women's junior races. The senior men's and women's team also put up a brilliant display of strength and team work that saw them lead Kenya to a 20th team title.

## Relation to Track and Road Running

- Keep the athletes fit ahead of track and later the Road running. Keep runners on their toes (no major break before track)
- Build the endurance capacity before specific training for specific track event,
- Cross country training makes track and Road running easier as there are no obstacles and breaking of speed as results of curves and corners.


## IAAF World Cross Country Championships

- It is believed that the World Cross Country is the most difficult races to win.
- At major championships, athletes compete in separate individual events, whereas in the IAAF World Cross Country Championships they compete against one another in only one race. Thus, the competition is quite fierce.
- Several Olympic Champions have gotten their start as World Cross Country Champions: Carlos Lopes, marathon, 1984; John Ngugi, 5000 m, 1988; Khalid Skah, 10,000 m, 1992; and Kenenisa Bekele, 10,000 m, 2004 and 2008. Numerous other champions have medalled at the Olympic Games or the World Championships, or have set World Records.


## Lowest Points of Athletics in Kenya

1976-1980

Many athletes from Kenya would have medaled in Montreal and Moscow, as they were in their best e.g. Henry Rono and others

## The World as a Global Village

We can achieve through our Sport

Dube Jillo

The Success Of Ethiopian Athletes at the IAAF World Cross Country Championships

Ethiopia first participated in an IAAF International Cross Country event in 1981.

The so called the "Green Fled" name also given to Ethiopian Athletes.

Mohamed Kedir Rome 1982-Gold

Bekele Debele
Gateshead 1993-Gold


## Achievements

Kenenisa Bekele

- World Cross Country record holder with 6 long course and 5 short course titles.
- From 2002 through 2008 he took both short and long course titles.
- A feat no other runner has accomplished.
- Greatest ever male cross country runner to have graced the sport.



## Achievements



Gebregziabher Gebremariam Amman 2009 - Gold

Imane Merga
Punta Umbria 2011 - Gold


Derartu Tulu Vilamoura 2000 - Gold

## Achievements



Gete Wami
Stellenbosh 1996 - Gold Belfast 1999 - Gold Ostende 2001 - Gold

Tirunesh Dibaba St. Etienne 2005 - Gold Fukuoka 2006 - Gold


Genzebe Dibaba
Edinburgh 2008 - Gold Amman 2009-Gold


## Success at the World Cross Country Championships

Ethiopian Athletes have had great success in both Male and Female categories.
> Reasons why Ethiopian Athletes success at World Cross Country Championships is really special.
$>$ Special because the high attitude running at high attitude is not quite as easy as at sea level

## Success at the World Cross <br> Country Championships

$>$ Ethiopian Athletes training at high and challenging altitude 2500m and above
> While at the same time getting to know the most fascinating history.
> Culture and natural attractions of Ethiopia the land of Runner

- High altitude training
- Mountain training


## Mountain Training

# Continuous running on undulated surface Up Hill / downhill 

Fartlek

General Phase:
Daily training

## Benefits of Mountain and Cross Country Training

To development
$\square$ aerobic Endurance
$\square$ Speed
$\square$ Strength

- Strength Endurance

To develop these qualities we strongly mixing types and the training area with challenging trail and landscapes.

## Categorised Season

To development of periodised training program to enhance the performance of National team CrossCountry, Junior, Senior category in Ethiopia.

- Cross country season From September - March
- Track season From April - August
- Road race season From September - June


## Event Category Groups

Six to 12 athletes each group category

- $6 \mathrm{k} / \mathrm{m}$ group
- $8 \mathrm{k} / \mathrm{m}$ group men and women
- $12 \mathrm{k} / \mathrm{m}$ group
- 4 km group

In both genders

## Event Category Groups

## Age Category Groups

- Junior (18-19)
- Senior ( 20 above)

In both Male and Female category

## Performance Category Group

- Novice level
- Intermediate level
- Advanced or elite level


## Cross Country Training in Relation to Track and Road Running

- Direct and inverse relation $b / n$ track and road training and cross country
- X-Country under the umbrella sport of Athletics is natural terrain version long distance track and road running
- Increase confidence for next track season
- Build team Sprit


## Cross Country Training in Relation to Track and Road Running

- X-Country training to develop on excellent aerobic condition for the track \& road race
- Speed training on the track to develop a very good speed for cross country and road race
- X-Country training is very special for both track and road races
- X-Country races is involving different obstacles and challenges


## Sample Micro cycle Junior 6km Period: General Preparation Programme

| Date | Training content | Training goal |  | 6km | Intensity level | Training place | Starting time |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} \text { By } \\ \text { time } \end{gathered}$ | By distance |  |  |  |
| Monday | CR on undulated terrain | To develop Aerobic endurance | 15' | 3km | 75\% |  | 1:00 |
|  |  |  | 50' | 12km |  |  |  |
|  |  |  | 10' | 2km |  |  |  |
|  |  |  | 75' | 17km |  |  |  |
| Tuesday | Short interval $7 \times 600 \mathrm{~m}$ with [2' easy run] | To Dev .Speed | 15' | 3km | 100\% |  | 1:30 |
|  |  |  | 35' | 4.2km |  |  |  |
|  |  |  | 10' | 2km |  |  |  |
|  |  |  | 60' | 9km |  |  |  |
| Wednesday | Regenerativ e CR on undulated terrain | To develop Aerobic endurance | 101' | 2km | 70\% |  | 1:00 |
|  |  |  | 40' | 8km |  |  |  |
|  |  |  | 5' | 1 km |  |  |  |
|  |  |  | 55' | 11 km |  |  |  |
| Thursday | Up Hill run 10x300m [easy run back] | To develop Strength endurance | 20' | 4km | 85\% |  | 1:30 |
|  |  |  | 9' ${ }^{\prime} 20^{\prime}$ | 3km |  |  |  |
|  |  |  | 10' | 2km |  |  |  |
|  |  |  | 59' | 9km |  |  |  |
| Friday | Long CR on undulated | To develop Aerobic endurance | 15' | 3km | 75\% |  | 1:00 |
|  |  |  | 50' | 12km |  |  |  |
|  |  |  | 10' | 2km |  |  |  |
|  |  |  | 75' | 17km |  |  |  |
| Sunday | Extensive endurance $4 \times 2000 \mathrm{~m}$ with | To develop General endurance | 15' | 3km | 95\% |  | 1:30 |
|  |  |  | 22'+12' | 8km |  |  |  |
|  |  |  | $10^{\prime}$ | \| 2km |  |  |  |

## Sample Micro cycle - 11th <br> Senior 12km <br> Period: General Preparation Programme

| Date | Training content | Training goal | Training type | 12km |  | Intensity level | Training place | Starting time |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | By time | By distance |  |  |  |
| Monday | Long CR on undulated terrain | Aerobic endurance | Warming up | 20' | 4km | 75\% |  | 1:00 |
|  |  |  | Main session | $90^{\prime}$ | 25km |  |  |  |
|  |  |  | Cool down | 10' | 2km |  |  |  |
|  |  |  | Total | 120' | 31 km |  |  |  |
| Tuesday | Short interval $10 \times 600 \mathrm{~m}$ with[2' easy run] | Dev .Speed | Warming up | 20' | 4km | 100\% |  | 1:30 |
|  |  |  | Main session | $16^{\prime}+20^{\prime}$ | 6km |  |  |  |
|  |  |  | Cool down | 10' | 2km |  |  |  |
|  |  |  | Total | 66' | 12km |  |  |  |
| Wednesday | Easy run | Aerobic endurance | Warming up | 20' | 4km | 70\% |  | 1:00 |
|  |  |  | Main session | 70' | 18km |  |  |  |
|  |  |  | Cool down | 10' | 2km |  |  |  |
|  |  |  | Total | 100' | 24km |  |  |  |
| Thursday | Hill run $15 x 300 \mathrm{~m}$ [ easy run back] | Strength endurance | Warming up | 20' | 4km | 85\% |  | 1:30 |
|  |  |  | Main session | 14'+25' | 4.5km |  |  |  |
|  |  |  | Cool down | 10' | 2km |  |  |  |
|  |  |  | Total | $64^{\prime}$ | 10.5km |  |  |  |
| Friday | Long CR on undulated terrain | Aerobic endurance | Warming up | 20' | 4km | 75\% |  | 1:00 |
|  |  |  | Main session | 85' | 23km |  |  |  |
|  |  |  | Cool down | 10' | 2km |  |  |  |
|  |  |  | Total | 115' | 29km |  |  |  |
| Sunday | Extensive endurance $6 \times 1600 \mathrm{~m}$ with[3'easy run] | General Endurance | Warming up | 20' | 4km | 95\% |  | 1:30 |
|  |  |  | Main session | 29'+25' | 9.6 km |  |  |  |
|  |  |  | Cool down | 10' | 2km |  |  |  |
|  |  |  | Total | 79 | 15.6 km |  |  |  |

## Summary/Key Elements

- Sustainable cross country running culture in Ethiopia
- Keep the discipline
- Cross country compulsory
- Long term development system
- Improve athletes performance for all events and at all levels Iregional, national and international levels for all categories


## Recommendations

- Short XC races e.g. 4 km XC contributing for a progressive transfer of EVENT
- Short to long race
- Very important for middle distance Athletes
- To reinstall short XC race
- To reinstall yearly XC WC

Benefits:

- Allows training for track events
- Avoids the road race boom
- No consistent training
- Structural overload = injury

A Physiological and Philosophical Perspective

## Cross Country Training \& Competition Performance Limiting Factors Crosscutting Adaptations

Günter Lange gunter.lange®iaaf.org
Malek El Hebil malekßiaaf.org

Athletes who achieve high level results in crosscountry races are likely to achieve similar high level performances in track or road races, however vice versa is not a must.

## Contributing / Limiting Factors of Athletic Performance



Modified from Grosser

## XC Profile



- Undulating (up/down) Courses
- Ground Conditions (firm/mud/snow/ice/water)


## STRENGTH / TECHNIQUE

- Obstacles (natural/artificial)
$\longrightarrow$ ANTICIPATION \& RIGHT \& LEFT SIDE
- Distance 12/8-8/6-6/4 km $\longrightarrow$ GENERAL ENDURANCE ENDURANCE STRENGTH


## Bio-motor Abilities $\longrightarrow$ Adaptations

The coach needs to know the relative importance of the necessary biomotor abilities for each event Bio-motor abilities are also performance-limiting factors if they are not developed to the necessary level

## XC WC 12 km Men / 8 km Women

 Performance 2003-2013

## Aerobic / Anaerobic Energy Provision



Share of energy supply mechanism during different track and field events (MADER / HARTMANN)

| distance | ATP / CRPH <br> $\%$ | anaerobic-lac <br> $\%$ | aerobic <br> $\%$ |
| :--- | :---: | :---: | :---: |
| 30 m | 80 | 19 | 1 |
| 60 m | 55 | 43 | 2 |
| 100 m | 25 | 70 | 5 |
| 200 m | 15 | 60 | 25 |
| 400 m | 12 | 43 | 45 |
| 800 m | 10 | 30 | 60 |
| 1500 m | 8 | 20 | 72 |
| 3000 m | 5 | 15 | 80 |
| 5000 m | 4 | 10 | 86 |
| 10000 m | $3-2$ | $12-8$ | $85-90$ |
| marathon | 0 | $5-2$ | $95-98$ |

## Cardiopulmonary System

## OXYGEN TRANSPORT <br> VO2max (ml/min/kg)

| ADAPTATION | $\%$ |
| :--- | :---: |
| - lung surface | $15-20$ |
| - Hb | 20 |
| - heart size | 50 |
| - muscle mass | 35 |
| - mitochondria | 300 |



## Cells - Building Blocks of Life

Mitochondria aerobic respiration "Powerhouses" of cell

Adaptations:

- Amount

28\%

- Size
- Surface

73\%

- Location


Marieb 1992

## Impact of Acidose* on Mitochondria

| Lactate | Damage |
| :---: | :---: |
| [mmol/l] | $\%$ |
| 7 | $3 \%$ |
| $8-15$ | $5 \%$ |
| $16-25$ | $7 \%$ |

Neumann (1993)
*free radicals

## Optimal Training

Percentages of improvement in $\mathrm{VO}_{2}$ max with various training intensities (WILMORE / COSTILL, 1994]

$\% \dot{\mathrm{~V}}_{2}$ max used during training

# RUN MEDIUM PACE IN ENDURANCE TRAINING TO RUN FAST IN COMPETITION 

## lactate $[\mathrm{mmol} / \mathrm{l}]$


running velocity [m/s]

Classification-scheme on the lactate-performance-curve for long distance running (velocity at $4 \mathrm{mmol} / \mathrm{l}$ lactate $=$ $4,86 \mathrm{~m} / \mathrm{s}$ ) according to selected training methods (NIESSEN, 1995)

## Cross Country

The basic difference between track running and cross country lies in the different types of load placed on the muscular systems - sharp variations over the country and a "constant" load on the track

## Intensity / Recruitment



* short/steep incline
** eccentric Phase


## Endurance Strength

|  | $\begin{array}{c}\text { Endurance } \\ \text { Strength } \\ \text { (UP HILL) }\end{array}$ | Adaptations |  |
| :--- | :---: | :--- | :---: |$]$

## Techniques Required

- Anticipation Iground conditions)
- Tight bend running
- Downhill "fast running"
- Clearance of obstacles with both legs
- Sustained fatigue
- Pain threshold
- "Impact" with opponents


## IAAF Competition Rules Rule 250

XC should be done especially on grass with natural obstacles

Avoid:

- very high obstacles
- deep ditches
- dangerous ascents/descents
- thick undergrowth
- crossing of roads/macadamized surface


## IAAF Competition Rules Rule 250

XC training / competition should include:

- Loop 1500m - 2000m [Water / Sponge]
- Total ascent per loop at least 10 m
- "natural" undulating course
- Smooth curves
- Short straights


## IAAF Competition Rules Rule 250.1

There are extreme variations in conditions in which Cross-Country Running and Mountain Running are practised throughout the world and it is difficult to legislate international standardisation of this sport.

## Belgrade 2013



## Punta Umbria 2011




## IAAF WORLD CROSS COUNTRY CHAMPIONSHIPS BYDGOSZCZ 2013



- Distance - 1950 m


## Proffle XC WC




## The Value of Cross Country Running

- Develops leg strength and aerobic fitness
- Enjoyable as well as challenging
- The variety makes it much more "fun"
- Increases confidence - showing athletes they can overcome a physical challenge
- Builds "team spirit"
- Develops a courageous approach to running


## Training Benefits for Track Runners



## Training Benefits for Track Runners

- Capacity to vary the muscular tension with the changes in rhythm
- To be alternatively aggressive and completely relaxed
- Capacity to react instinctively, without necessarily following a pre-ordained scheme


# Cross Country $\leftarrow=\rightarrow$ Steeplechase 



General Endurance
Endurance Strength

## Event Specific Endurance

Skill/Technique
"Broken" rhythm


## Gold Medals: XC \& OG

| YEAR | ATHLETE | xc wc | olYMpic GAMEs |
| :---: | :---: | :---: | :---: |
| 1984 | Carlos Lopez | G | Marathon |
| 1988 | John Ngugi | G | 5000 m |
| 1992 | Khalid Skah | G | 10.000 m |
| 2004 | Kenenisa <br> Bekele | G | 10.000 m |
| 2008 | Kin |  |  |

## Ngugi's Statement...

"During my training, I was using cross country as a base and a gauge for track. I could predict my performance on track based on my cross country performance. If I had a good cross country period I knew definitely my track period was going to be even better"

John Ngugi, 2nd December 2013

The Cross Country competition allows one to:
$\checkmark$ Predict the track performance (M\&LD)
$\checkmark$ Assess the quality of training adaptation

- Metabolic
- Neuro-muscular
- Mental


# Participation in the IAAF World Cross Country Championships 

## Member Federations

## Jose Maria Odriozola (ESP)

"Cross country is how I started running as a teenager, and I still remember the sense of freedom and enjoyment that came from running on natural pathways, being at one with nature.


## Participation at the IAAF World Championships

Contrast between rising interest to take part in European Cross Country Championships and the declining participation by European Athletics Member Federations at the IAAF World Cross Country Championships.

## Participation at the IAAF World Championships

## Some Comparative Facts

## Dates

- Beginning of December EA Championships vs end of March WCC
- For many countries the difficult weather conditions
- In January February and March do not allow athletes for outdoor training and good preparartion
- Many prefer to compete indoors or on the road circuit
- The WCCC is too close to the spring outdoor events and can interfere with the programmed preparartion for the summer season.


## Participation at the IAAF World Championships

Change of the coaches philosophy concerning the cross country events.

In the past, it was the best way to educate physically and mentally all kinds of runners.

Many top middle and long distance athletes compete and train during Autumn and Winter at Cross Country races and circuits lex. J.L.Gonzalez, Abascal, Cacho, Estevez, Higuero, Casado in Spain.

Today is only a goal for a few athletes because the very high level of the African runners makes very difficult to obtain good results and they prefer to compete on more economically profitable road races (with also more media coverage).

## Some Ideas

Some ideas to recover the interest for World Cross Country Championships

To convince the running coaches that cross country races are the best school for the development of all kinds of runners (from distance to marathon)

That the Autumn-Winter training programme should be full of running workouts on the forest trails

To look for spectacular demanding courses with reasonable good surfaces To find nice venues, when the weather conditions can be pleasant at the end of March

Venues with nice flying connections and good accommodation

## Some Ideas

Other important factors to improve participation at World Cross Country Championships

To help potential organisers with easier economic conditions
To transfer the IAAF prize money to provide incentive the participation of Member Federations, not individual prize money but for team results

To make the circuits easier to follow by spectators and especially TV viewers: 2 km laps, all equal, to match the distances;

6 km for juniors (men \& women)
10 km for seniors (men \& women)
Good TV producion with partial results for teams at each lap (posible with transponders)

Interviews before and after with stars

## The Future

## 2015 IAAF World Cross Country Championships - Guiyang, CHN

- I know the place as Organisational Delegate
- Very nice and scenic circuit with hilly parts
- Very good accommodation with a fantastic park nearby to train
- Very enthusiastic LOC
- To further encourage participation IAAF should increase subventions for teams
- Maybe celebrities race like in Punta Umbria


## Jean Gracia (FRA)

General Director French Athletics Federation (FFA)



- Cross-country is a traditional event in France
- French Championships organized for 124 years (since 1889)
- Many qualification rounds before the National Championships:
- "Interrégionaux" (8)
- "Régionaux" (30)
- "Départementaux" (95)
- France has organized many Championships:
- International Cross Country Championships = 9 times in 1908, 1913, 1923, 1929, 1935, 1947, 1953, 1961 and 1970 (Colombes, Juvisy, Maisons-Lafitte, Vincennes, Auteuil, Sant-Cloud, Vincennes, Nantes and Vichy)
- IAAF World Cross Country Championships = 3 times in; 1980, 1990 and 2005 (Longchamps, Aix-les-Bains and Saint-Etienne Saint-Galmier)
- Last IAAF Cross Country Championships in 2005
- Successful organization with 46000 spectators during the two days of the competition.
- No good results for the French Team :
- Best French Junior Man $=90^{\text {th }}$ (out of 132)
- Best French Junior Woman $=85^{\text {th }}$ (out of 117)
- Best Man in the short race $=47^{\text {th }}$ (out of 141 )
- Best Woman in the short race $=35^{\text {th }}$ (out of 106 )
- Best Man $=29^{\text {th }}$ (out of 94 )
- Best Woman =23rd (out of 94)
- France is one of the five countries participating in all IAAF World Cross Country Championships
- At 2013 European Cross Country Championships, participation of a full team ( $6 \times 6=36$ athletes)
- At 2013 World Cross Country Championships, participation of small team (12 athletes)


## POTENTIAL ISSUES

- Most of French athletes are not at the same level as African athletes
- Same issue for most European countries :
- Strategical choice
- Economical issue
- Citizenship change too easy
- European Cross and World Cross Country Championships not at the same time of the year


## IDEAS / PROPOSALS

- World Cross Country Championships every year end of February / beginning of March
- Reduce the number of athletes per team
- More severe rules for citizenship change
- Create a "Continental Cup" with prize money within the World Championships
- Create a "World Cross-country Day"
- Championships courses with more difficulties lavoid hippodromes)


## Thelma Wright (CAN)

"Cross country allowed me to excel in a time when 800 m and 1500 m were the longest Olympic events for women. Representing Canada for the first time at cross country at age 17 dared me to dream."


## The Role of World Cross Country

 in Athletics Canada's Programmes
" each of us has an obligation to make the best of his (her) talents... governance has the obligation to create the framework which we can do so"

Margaret Thatcher

We all have a vision \& passion for XC, just some have a different outlook...


Why Bother?


I Can Do it


Not Worth it


Let me Try


Why Not?

## Why Bother?

## Negatives we fight - are they not the same?

- Non-Olympic Event
- No World record
- Lack of prize money, sponsorship and media coverage
- Conflicts with road-racing calendar
- Weather and seasonal factors
- Few host cities
- Declining athlete participation
- Focus on other events where we can excel


## Are we any different in North America Europe? Or the rest of the world?

School \& Collegiate Programmes account for incredible participation in USA \& Canada

## Mohammed Ahmed

NCAA XC 5 ${ }^{\text {th }} 2011$ $4^{\text {th }}$ World Jr 10,000m
27th Jr WXC 2010
22nd $\operatorname{sr}$ WXC 2013

## It's Not Worth Trying

- Self-funded teams
- Cross Country Season finished in December
- Ice \& snow mid November - late March
- Too hard to win
- No emphasis on Endurance for past 20 years
- Road racing more lucrative
- No invitations to IAAF Cross Country Permit meetings

It's hard to train in Canadian winters for WXC in March.

And still harder for Canadian athletes to pay their way to WXC!

In a Culture of Ice Hockey, Snow \& Ice...and Beer...Why Run?

Focus on the process: the outcome will take care of itself

Attitude and perspective is everything

An endurance-based approach is one of the main contributing factors to success throughout a long racing season.

## Lynn Kanuka Williams

World Cross Country was pivotal for me and launched my commitment to highperformance athletics.//

7 World XC appearances: 1979-1989
Team Bronze 1983
Individual Bronze 1989
Bronze 3000 m '84 0G
$5^{\text {th }} 1500 \mathrm{~m} \& 8^{\text {th }} 3000 \mathrm{~m}$ ' 880 G


## Paul McCloy



11 He was single-minded, immensely focused on what he had to do and very, very tough. 18

11 For a young Canadian and from Newfoundland to boot, to finish so high in the most competitive event on the athletics calendar for distance runners-in a year already dominated by African athletes-was truly exceptiohal.

## I(We) Can Do it

Past results show is possible
There are always athletes who excel
Exposure to the best allows for success

11 Now I have faced such a high level of competition I'm not intimidated. I'm confident I can get up there at the front of the race and compete no matter what.

One of the big things is I came to understand just how good the world is at running and it made me all the more determined. It gave me a good understanding of just how hard you need to work and just how good you need to be.

11

## Senior Men's Teams



## Paul McCloy

- 15 World XC appearances: 1981-1996
- Best performance Jr $16^{\text {th }}-1981$
- Best performance $\mathrm{Sr} 8^{\text {th }}-1987$
- 1987 World Championships
- 1988 Olympics - 10,000m
- CDN 10k Road Champion 1986 27:47.09



## Simon Bairu

"Deemed the most outstanding single performance on or off the Track for a Canadian in Athletics that year
$12^{\text {th }} 2010$
World XC
3 as a junior 2003-52 ${ }^{\text {nd }}$ 2010-12 ${ }^{\text {th }}$


## Senior Women's Teams



## Canada Bronze! 1983



## 2004 Short Course Bronze

Team Belief - supported our best

## 5 Olympians

Émilie Mondor - 5000m
Carmen Douma-Hussar -1500m
Malindi Elmore - 1500m
Tina Connelly - 10,000m
Leah Pells - 1500 m
$4^{\text {th }}$ OG 1996

Courtney Inman


## Émilie Mondor 1981-2006



5 World Cross Country appearances 1998-10 th Jr Race at age 16
2004 - $8^{\text {th }}$ Long \& $13^{\text {th }}$ Short Course 2004 - Short Course Team 3rd
2003 - World Championships
2004-Olympic Games
First 5,000m Canadian under 15:00 minutes
"Émilie was by far the most single-minded, driven, committed female endurance athlete in Canada but it ultimatelytpok its toll.


## Senior Women's Short Course



## Senior Men's Short Course



## Kevin Sullivan

- 11 World XC appearances
- 4 x Jr: 1990-1993-13 ${ }^{\text {th }}$
- 7 x Short Course: 2004-7th
- 2000 Olympic Games: 1,500m 3:31.71 $5^{\text {th }}$ (still CDN Record)



## Canada's Decisions based on...

- Building a foundation
- Linear steps to provincial and national success
- Cooperation and linkage with High school, Club and University/College programs (NCAA, NAIA, CIS, CCAA)
- Athletes, Coaches willing to prioritize National Team programs and make WXC a goal
- Yearly and Quadrennial planning; development of Endurance programs to include XC
- Structure to attain selection
- Athletics Canada allowance for self-funded Teams
- Funding earned through Area and IAAF Quotas
- Commitment to IAAF Championships as a Member Federation


## Selection Process for the NACAC Championship

- Athletes who finish in the top 8 ELIGIBLE places at the National Championships will be considered for selection
- Team selections will be based on order of finish with the top 5 being automatically selectable. Others will be in the selection pool should any of the first 5 be unable to participate.
- In order for a team to be selected, a minimum of 5 ELIGIBLE finishers must declare for the team
- A minimum of 3 of the top 5 finishers MUST declare for a team to be selected in each event
- Individual National Champions ONLY are still selectable in the event a team is not selected


## Athletics Canada Objectives Area Championships

- To enter teams (maximum of 6 athletes) capable of winning the NACAC Championship
- To give individual champions who are committed to Cross Country in 2013 as part of their overall program an opportunity to win the Area Championship
- To give an international competitive opportunity for developing endurance athletes entering or already part of Athletics Canada's High Performance stream
- To use this project as a strong long-term development and strategic planning tool for Canada's middle and long distance running program


## Selection Process for the IAAF World Championships

- Teams are not guaranteed to attend the IAAF WXC Championships
- Athletes are required to compete at the NACAC Championships
- Teams MUST finish in the top 2 at the NACAC Championship in order to be selectable
- Teams must be deemed capable of finishing in the top $1 / 2$ of teams at the World Championship
- NACAC Champions and those athletes competing at NACAC and having finished in top 20 at previous World XC are eligible for selection on an individual basis if a full team is not selectable based on their competitive readiness and ability to perform at the world level
- Athletes not competing at NACAC cannot displace a NACAC team member who qualifies


## Athletics Canada's Objectives World Championships

- To enter world class teams in IAAF World Cross Country Championships (at least the scoring number plus 1 alternate) capable of finishing in the top $1 / 2$ of the field as a team
- To have teams finish in the top $1 / 2$ of the field at the IAAF World Championships
- To enter individual NACAC Champions capable of finishing in the top $1 / 2$ of the field
- To provide a world level competition for current and future Senior High Performance athletes


## Junior Men

- Eight Top 10 individuals: 1978-1984
- Team Silver 1978: Rob Earl - $2^{\text {nd }}$
- Team Bronze 1981: Dave Reid - $3^{\text {rd }}$
- 1984: John Castellano - 3rd



## Junior Women

- 1989: $5^{\text {th }}$
- 2008: $5^{\text {th }}$
- Cannot win or even place if not at the start line
- Development of youth and juniors to future Olympians and World champions
- What does it take to run with the World's best?
- What it's like to lose. Can our athletes rebound?
- How hard are we willing and able to work?
- Team Concept...athlete goals become meshed with team goals
- Role Models, Local Heroes, Legacy
- Passion, Purpose, Direction
- Advocacy


## Passion and Advocacy from the Past



- ICCU XC 1970 -Bronze
- Olympic Games: 1972, 1976 -1,500m


## For the present .....



It's all about being able to elevate your game...gaining as much experience...so that you can succeed at the next level.

All our top distance runners, at one time or another, competed for Canada at World Cross Country. Respect is deserved for the athletes that are competitive at such a high caliber event ...often not given recognition for how difficult it can be.

Cam Levins


Natasha Wodak
NACAC Champion 2013
$24^{\text {th }}$ and $25^{\text {th }}$ 2013 World XC

Rachel Cliff NACAC $2^{\text {nd }}$ 2013

## Why bother? We can't win; we are just not good enough.

It's not worth trying with no money or recognition. The results don't lie!

I (we) can but without a World Record to chase, fame \& fortune to gain, why not play ice hockey-or football or tennis?

Let me (us) try! Just give us the chance to be on the line.
Why Not? Let things happen and good things will!

## We all need Pooh's optimism!



## "When you do

The Things that you can do You will find the way"
'It's all there in front of you
But if you try too hard to see it,
You'll only become confused.'

## Anne Lord (AUS)

" The World Cross Country Championships is the toughest race in the world. It's not just about the terrain and the conditions; it's about running against the best distance athletes in the world all at once.


## Australia at the IAAF World Cross

Country Championships


- Landy, Clarke, Clayton, Deek, Mona, Benita
- Back then everyone raced XC in winter and Track in Summer every week
- 1970s-large cohort of talented articulate distance runners who met and competed at interclub and nationals competition. Pushed national body to participate
- Support from national coaches to participate


Role Models

- Strong group of female distance runners raced XC regularly, only 'long' races available.
- Success at WXC Deek, Mona, Benita, women's teams event

- Isolated-strong competition within Australia but less exposure to elite competition with initially only international competitions, OG and CG's
- In the past WXC = opportunity for Australian distance runners to compete internationally. No qualifying standards and big teams (9men) meant WXC was something to be aspired to by the best and developing athletes
- In Australia running is not as commercial, less money around for road races etc (some but not as much as USA Europe etc)
- WXCC funded by IAAF and MF

Geography


Team Event


- Because XC played such a vital role in Australian distance running development the WXCC were a natural progression.
- The runners in the 70 s were articulate and well organised (pushed for teams to be sent and fundraised), built the basis for regular Australian representation
- Australia competed every two years up till 1985 then every year. National distance coach recognised value of this competition


The trial for the WXCC has always been a key event in the calendar

Belfef


- As years went by increased competition, WC track, road races, money, managers plus tied government funding, meant that WXCC were not high priority for Athletics Australia's HP department.
- The push to continue to support the event came from the athletes themselves. The distance community became more vocal in its support for WXCC which it recognised for its significant role in Australian distance running development. The distance running commission (DRC) was formed.
- DRC's vigilance to ensure support for WXCC, is the single most significant factor in continued participation

- Australia's continued participation in WXCC has lead to various levels of individual and teams success which in turn has provided ongoing funding from the IAAF.
- Prior to this the distance athletes would fundraise if there were funding shortages from Athletics Australia
- Recently junior participants in WXCC have been levied for part of their funding

Team Medals

WXCC represents a goal for Australian distance runners at elite and sub elite levels

- They accept the challenge...Deek, Mona, Benita, Craig, Collis, women's teams placings
- Australians want to compete against the best in the world. (less local exposure to high level events)
- They accept the challenge of the WXCC and are not afraid to step outside their comfort zone
- Recognise that XC and WXCC are relevant to development in all middle-distance and distance events

SIAAF


From Deek (1983) to Colf's (2013)

- History
- Geography
- Advocacy
- Attitude
- increased funding
- ongoing participation


## Ongoing participation

## A Truly Global Event



