

Effectiveness over time of a Train-the-Trainer initiative dealing with FOSS for Earth Image Processing

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EARSEL, Paris, 3-june-2010



Outline

- Introduction
- Questionnaire survey
- Results
- Discussion
- Conclusions & Recommendations

Introduction

- Short Training Initiatives (KOI)
 - Sponsor = Belgian-Flemish University Development Cooperation
« *Sharing minds, changing lives* »
 - 12 scholarships for trainees from developing countries
 - Max. 2 weeks
- Geomatics for land evaluation and land use planning
 - FOSS4G
- Effectiveness ?
 - No exam !
 - Extent and type of re-use of FOSS4G and other course materials as a function of time after End-of-KOI (aEoK)
 - <> Efficiency

3 KOI (2007, 2008, 2009): Train-the-Trainer

	2007	2008	2009
Title	Land evaluation with FOSS4G	FOSS4G with application to land evaluation and land use planning	FOSS4G for processing and sharing of geospatial data with application to land evaluation and land use planning
Period	27-aug-07 to 7-sep-07	18-aug-08 to 29-aug-08	27-jul-09 to 7-aug-09
Total number of participants	20	23	21
Structure	<p>Module 1 (6 days): Concepts and functions of GIS for land evaluation</p> <p>Module 2 (6 days): Concepts and functionalities of remote sensing and image processing to support land evaluation</p>	<p>Module 1 (4 days): Concepts and functions of GIS for land evaluation</p> <p>Module 2 (3 days): Integration of remotely sensed data in GIS for land evaluation and land use planning</p> <p>Module 3 (2 days): Customising QGIS-software</p> <p>Module 4 (1 day): Evaluation of FOSS4G-solutions</p>	<p>Module 1 (4 days): Concepts and functions of GIS for land evaluation</p> <p>Module 2 (3 days): Integration of remotely sensed data in GIS for land evaluation and land use planning</p> <p>Module 3 (3 days): Concepts and FOSS4G-tools for sharing of geospatial data</p>
Major software	Quantum GIS 0.8.1 'Titan' GRASS 6.2.2	Quantum GIS 0.11.0 'Metis' GRASS 6.3.0.4 MS4w 2.2 Python 2.5	Quantum GIS 1.0.2-1 'Kore' GRASS 6.4.0svn R 2.9.1 PostgreSQL/PostGIS 8.3
Geodatasets covering	Tabacay river basin in the southern Andes of Ecuador	Tabacay river basin in the southern Andes of Ecuador	Tabacay river basin in the southern Andes of Ecuador

Questionnaire survey

- At end of each KOI (EoK)
 - Intentions for re-use of training materials
- January-2009 and January-2010 (# months aEoK)
 - 2009 (e-mail), addressing 2007 and 2008 participants
 - 2010 (web), addressing 2007, 2008 and 2009 participants
 - Effective further use in the previous 5 or 12 months of
 - Documents
 - Data
 - Software

Results (1/4)

Number of months between end-of-KOI and survey

Survey →	EoK	2009	2010
KOI			
2007	0	17	29
2008	0	5	17
↓ 2009	0	NA	5

Year of survey at 0, 5, 17 and 29 months after EoK

Survey →	0	5	17	29
KOI				
2007	EoK_2007	NA	2009	2010
2008	EoK_2008	2009	2010	NA
↓ 2009	EoK_2009	2010	NA	NA

Potential number of participants in surveys

Survey →	0	5	17	29
KOI				
2007	20	NA	20	20
2008	23	23	23	NA
↓ 2009	21	21	NA	NA
Total	64	44	43	20

Actual number of participants in surveys

Survey →	0	5	17	29
KOI				
2007	18	NA	8	9
2008	19	14	10	NA
↓ 2009	21	12	NA	NA
Total	58	26	18	9

% (actual / potential) of participants in surveys

Survey →	0	5	17	29
KOI				
2007	0.90	NA	0.40	0.45
2008	0.83	0.61	0.43	NA
↓ 2009	1.00	0.57	NA	NA
Total	0.91	0.59	0.42	0.45

Results (2/4)

Further use of GRASS-stand alone (absolute)

Survey →	0	5	17	29
KOI				
2007	7	NA	3	3
2008	4	12	4	NA
2009 ↓	3	2	NA	NA
Total	13	14	7	3

Further use of GRASS stand alone (relative)

Survey →	0	5	17	29
KOI				
2007	0.38	NA	0.38	0.33
2008	0.19	0.86	0.40	NA
2009 ↓	0.14	0.17	NA	NA
Total	0.23	0.54	0.39	0.33

Further use of software (absolute)

KOI / Survey	0	5	17	29
2007	18	NA	6	9
2008	22	11	10	NA
2009	21	10	NA	NA
Total	61	21	16	9

Further use of software (relative)

KOI / Survey	0	5	17	29
2007	1.00	NA	0.75	1.00
2008	1.00	0.79	1.00	NA
2009	1.00	0.83	NA	NA
Total	1.00	0.81	0.89	1.00

Results (3/4)

Further use of documents/presentations (absolute)

Survey →	0	5	17	29
KOI				
2007	18	NA	5	8
2008	19	13	10	NA
↓ 2009	19	12	NA	NA
Total	56	25	15	8

Further use of documents/presentations (relative)

Survey →	0	5	17	29
KOI				
2007	1.00	NA	0.63	0.89
2008	1.00	0.93	1.00	NA
↓ 2009	0.92	1.00	NA	NA
Total	0.97	0.96	0.83	0.89

Further use of geodata (absolute)

Survey →	0	5	17	29
KOI				
2007	14	NA	4	6
2008	18	12	9	NA
↓ 2009	14	9	NA	NA
Total	46	21	13	6

Further use of geodata (relative)

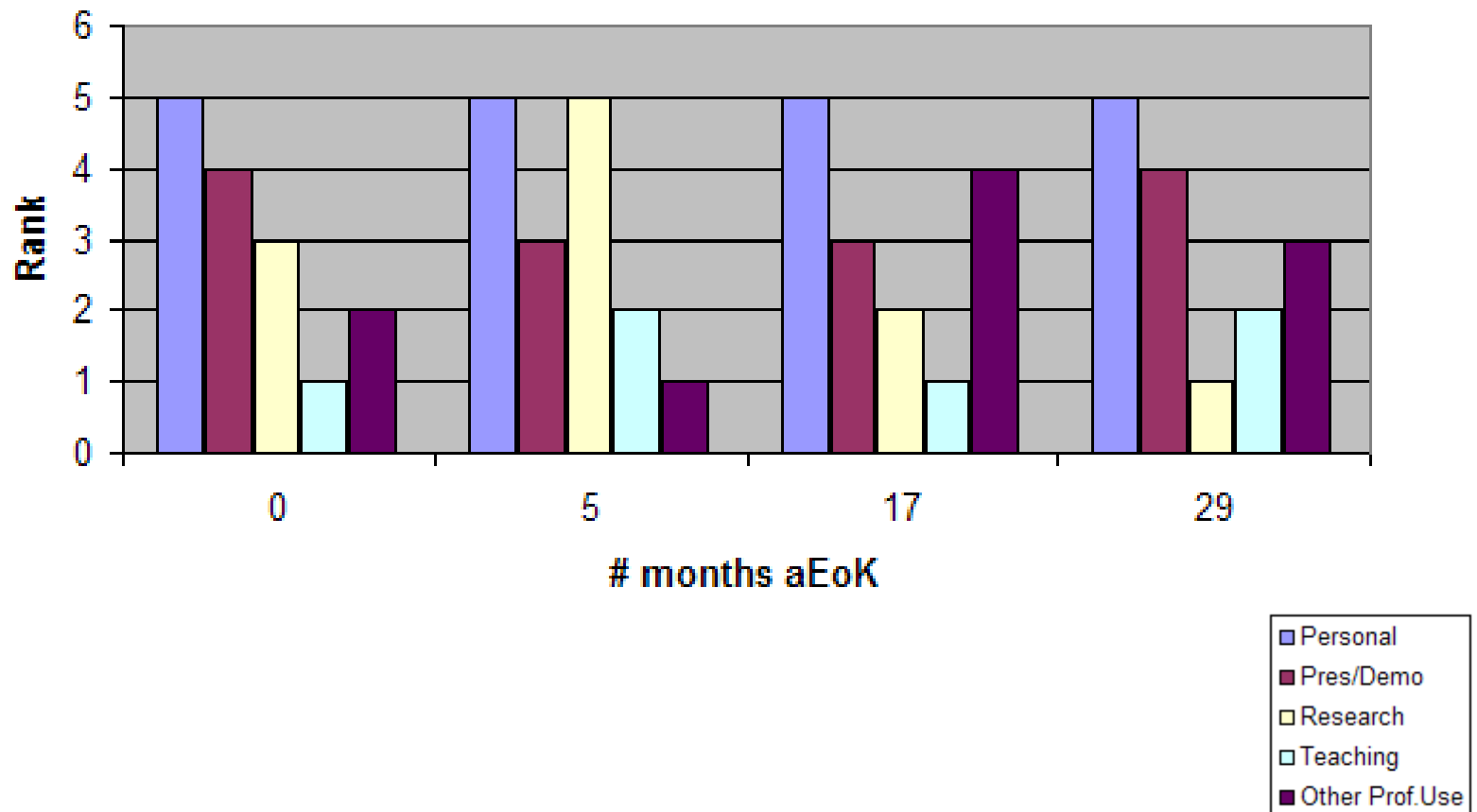
Survey →	0	5	17	29
KOI				
2007	0.78	NA	0.50	0.67
2008	0.93	0.86	0.90	NA
↓ 2009	0.67	0.75	NA	NA
Total	0.79	0.81	0.72	0.67

Time spent since EoK (hour/month/respondent)

Survey →	0	5	17	29
KOI				
2007	NA	NA	NA	3.71
2008	NA	NA	3.55	NA
↓ 2009	NA	4.30	NA	NA
Total	0.00	4.30	3.55	3.71

Results (4/4)

Purpose of further use of FOSS4G



Discussion (1/2)

- Effectiveness of training initiatives and re-use of training materials is hardly documented
- Sample is small, Response rate > 90% EoK and ~50% aEoK
 - Respondents are assumed to also represent non-respondents, which may be not fully true
- Response to questionnaire decreases slightly with time elapsed
- Intentions for re-use at EoK are very strong
- Effective further use of FOSS4G is high and even increases with time
- Effective further use of Earth Image Processing FOSS is lower and decreases (slightly) with time
- Further use of documents and geodata is high and relatively stable in time
- Time spent per respondent ~4 hours/month and is stable
- Further use for teaching is limited; Use as personal reference dominates

Discussion (2/2)

Secondary impact of training

Participation in software development (relative)

Survey →	0	5	17	29
KOI				
↓ 2007	NA	NA	NA	0.22
2008	NA	NA	0.00	NA
↓ 2009	NA	0.17	NA	NA
Total	0.00	0.17	0.00	0.22

Visits of FOSS-websites (relative)

Survey →	0	5	17	29
KOI				
↓ 2007	NA	NA	NA	1.00
2008	NA	NA	0.90	NA
↓ 2009	NA	0.83	NA	NA
Total	0.00	0.83	0.90	1.00

Awareness of SDIs in home country (relative)

Survey →	0	5	17	29
KOI				
↓ 2007	NA	NA	NA	0.56
2008	NA	NA	0.50	NA
↓ 2009	NA	0.67	NA	NA
Total	0.00	0.67	0.50	0.56

Impact much larger than
for KOI (2005) focusing
CCSS4G
(Abu El Nasr and Van Orshoven, 2008)

Conclusions, Recommendations

- Effectiveness in terms of further use and created awareness is considerable; It is relatively stable to at least 29 months after EoK
- Effectiveness in terms of multiplication effect is limited
- Intentions at EoK are over-optimistic; Effective further use is lower and takes some time to start up
- Evaluation of effectiveness cannot be based on EoK
- FOSS4G to be preferred over CCSS4G for training of trainers for general purpose

- Effectiveness (frequency of re-use) may be raised through
 - More targeted recruitment of trainees
 - More targeted, individualised content
- Multi-level KOI: General purpose as ice-breaker; Follow-on KOI for more targeted work



Thank you

Next KOI will be in summer of 2011. It will be a participatory follow-on KOI
www.sadl.kuleuven.be