



Australian Government

Australian Centre for
International Agricultural Research

Adapting conservation agriculture for rapid adoption by smallholder farmers in North Africa (CANA Project/ CSE-2011-025)

Second Steering Committee Meeting of “ACIAR-ICARDA Adapting conservation agriculture for rapid adoption by small holder farmers in North Africa” (CANA Project)

Minutes

Executive summary

The second RTCP meeting was followed by the Second CANA Project Steering Committee Meeting on 30 September 2013 chaired by Dr. Mohamed El Mourid ICARDA/ NARP Regional Coordinator on behalf of ICARDA. ACIAR was represented by Dr. Patrick Wall, RSSA was represented by Dr. Barry Mudge, NARS of Algeria, Morocco and Tunisia were represented respectively by Dr. Omar Zaghouane, DG ITGC, Dr. Rachid Mrabet, Director Research Division INRA and Mr. Oussama Kheriji, DG INGC. Following the approval of the first SCM minutes, achievements of the 2012-13 season were presented by Prof. Boubaker Thabet on behalf of the NARS. Dr. Oussama El Gharras then presented the plan of work and budget for 2013-14 season. Regional activities and financial matters were presented by Dr. Nefzaoui, CANA project technical coordinator. The three presentations were followed by thorough discussions prior to their approval. In the closing remarks, ICARDA, ACIAR, Rural Solutions SA and NARS representatives expressed their thanks and recognition to the Government of Algeria for hosting this event and for the kind and nice hospitality and to the Government of Australia and ACIAR for financial support.

Detailed minutes

The second SCM was held in Algiers, September 30th 2013 and chaired by Dr. Mohamad El Mourid, ICARDA NARP Coordinator.

Dr El Mourid presented the agenda of the meeting (see attached) which has been approved. The agenda includes the following:

- Opening: statements of ICARDA, Host Country, ACIAR, and RSSA
- Approval of the minutes of the First SCM
- Presentation of Project achievements 2012-13
- Presentation of the POWB 2013-2014
- Regional activities and financial report
- Discussion and approval of POWB 2013-2014
- Any other business
- Closing

1. Opening statements

Dr Omar Zaghouane, DG ITGC, welcomed participants on behalf of the Ministry of Agriculture and expressed Algeria's commitment to the success of the project. Dr. Barry Mudge on behalf of RSSA forwarded the apologies of Dr. Jim Fortune of not participating to this important event and expressed his satisfaction of the progress made so far. Dr. Patrick Wall on behalf of ACIAR conveyed Dr. John Dixon's greetings and stated that ACIAR is implementing CA initiatives in many African countries for the benefit of both Australian and African scientists; he thanked the Algerian team and Algeria for kindly hosting the event.

Dr El Mourid on behalf of ICARDA conveyed Dr. Shideed's apologies for not being able to attend and expressed his thanks to Algeria for hosting and organizing the meeting. He welcomed representatives of

ACIAR, RSSA, INRA Morocco, IRESA and INGC and ITGC. He expressed ICARDA's appreciation of AusAid and ACIAR financial support.

2. Approval of the first SCM minutes

After reading the minutes of the first SCM, and prior to its approval, it has been suggested that in the second line of the opening statements to move to a new line after "... host country".

3. Highlights of major achievements

Highlights of major achievements of the project during 2012-13 season were presented by Prof. Thabet on behalf of the three platforms (appendix 2).

The discussion focused on the following issues:

- Need to homogenize the presentations (PW)
- The final report on the socio-economic survey must be done at the level of the three platforms (PW)
- Data from a short project will be insufficient to capture crop/livestock integration requirements and it is recommended to augment field data with system modelling (PW)
- Water is probably the major driver in at least 2 of the 3 platforms and therefore, we need to follow moisture (need for TDRs) (PW).
- More focus need to be put on fertilizers, especially P (RM)
- We need to tackle the issue of aggregation because CA is more appropriate to large farmers (RM).
- WUE may be improved by nutrient management, weed control (BM)
- Very good synthesis, but we need some numbers (MEM)
- Use open grazing instead of illicit grazing depending of the country (MEM)

Dr El Mourid commented on some concerns of Dr Rachid Mrabet, assuring him that results are under the same rotation; C sequestration was part of the project but then we removed because the duration of the project does not allow that. Meta-analysis has been used to develop the rationale of the project and allowed us to identify the three major research priorities.

4. Plan of Work & Budget

Mr. Oussama El Gharras presented on behalf of the team the plan of work for 2013-14 season (see appendix 3). Discussion focus on the following:

- The minimum data to collect for the farmers managed trials: yields, dry matter, cultural practices and costs of operation (PW)
- All teams are lacking sociologists to properly analyse behaviour (OK), this might be solved through external expertise.
- Training in Australia should take place at early stage of the project to make a better benefit to the project (OK)
- More precision is needed on crop sequences and rotations used (MEM)
- Farmers-managed trials: Options to be tested at each platform need to be indicated as well as the minimum data to collect (MEM). The best-bet options to transfer (PW & MEM) are: ZT drill to all platforms, weed management, and forage mixtures. These best-bet options may vary from one farmer to another.
- We need exact dates for exchange of scientists and calendar of events (MEM)
- Modelling: need for both APSIM and bio-economic modelling
- As recommended by the first SCM, the detailed POW should be with the SC long before the SCM. This is possible only if we separate the SCM and the RCPM, ICARDA is requested to investigate this option with ACIAR (PW)
- The POW&B will be approved after putting details by the end of October and formally submitted to the Steering Committee.

5. Regional activities and financial matters

Dr Ali Nefzaoui presented regional activities and financial matters (appendix 4). Discussion focused on the following:

- Travelling workshop: not only scientists but also other partners (farmers, NGOs): to visit the 10 farmers hosting research trials and some of the 20 farmers who have farmer-managed trials, and have a meeting with all farmers (PW)

- Mechanisms of working with partners raised last year by J. Dixon needs to be better clarified (BM)

Suggested training in Australia (BM)

- Assessment of the DNA-root disease test for Morocco
 - o Suggested timing: Nov 28 to Dec 9, 2013
 - o Location: South Australia & Western Australia
- Modelling tool for decision making and risk management
 - o 3-4 day training program in bio-economic modelling incorporating risk
 - o Decision Support Systems and Risk
 - o Farm visits focussing on risk management
 - o Any other areas of specific interest
 - o Suggested timing: February, 2014
 - o Location: South Australia
- Weed biology and herbicide resistance, Seeding systems and herbicides, Field trial equipment, Field trials on herbicides and crop sequences, CA practices (farmers and field days)
 - o Suggested timing: 17 to 31 Aug., 2014
 - o Locations: South & Western Australia
- Nutrient requirements of livestock, Forage species, Lot feeding with grain and straw
 - o Suggested timing: August (?), 2014 (10-14 days)
 - o Location: South Australia
- Spraying technologies and systems (training in the region)
 - o Suggested timing: December, 2013 (5 days)
 - o Location: Agricultural Engineering laboratory of INRA Morocco, Settat

6. Other businesses:

6.1. Jim Fortune request

Dr El Mourid raised the request of Dr Jim Fortune about appointing a Junior Australian to prepare a PhD thesis on adoption. After discussion and going back to the project document that stipulate the following positions:

- One post-doc on modelling (objective 2) for one year to be posted at ICARDA
- One junior scientist on adoption/socioeconomics to be posted at ICARDA for 2 to 3 years.

It was decided to postpone the discussion until receiving more details on the PhD theme. Furthermore, all participants agreed that modelling is highly needed including APSIM and bio-economic modelling. Exchange on this matter with the SC will continue through email or skype.

6.2. Monitoring and evaluation

ICARDA requested to include activity on monitoring and evaluation (M&E) in the plan of work and budget. It is suggested to shift a part from ICARDA budget under personnel to M&E. This option is approved by the SC.

6.3. Other matters

- John Dixon request Paragraph 3 page 3 (1st SCM): A debate went on who to invite for better advocacy for the project? Farmers, policy maker? Civil society? It is stressed that the SC is a decision body and **the project coordination unit will organize special event with relevant stakeholders to fulfil this need for advocacy.**
- INRA Morocco is requesting that any savings from equipment should be used for operations **Approved by the SC**
- Because of its high costs, training in Australia should be at least for 15 days and it is recommended to do this at an early stage of the project and should be reflected in the calendar of events.

7. Closing remarks

Representatives of INRA Morocco, IRESA/INGC Tunisia, ACIAR, RSSA and ICARDA expressed their thanks and recognition to the Algerian team and to the Ministry of Agriculture of Algeria for hosting this meeting.

On behalf of the Ministry of Agriculture of Algeria, Dr Omar Zaghouane thanks AusAID, ACIAR, RSSA, ICARDA and colleagues from Tunisia and Morocco for coming to Algeria. This project is called to play an important role in Algeria food security.

On behalf of ICARDA, Dr El Mourid thanked all participants and the Government of Algeria. He expressed his thanks and recognition to ITGC, to Dr.Zaghouane and his team, RSSA and ACIAR. He expressed his appreciations to AUSAID, to ACIAR and to Patrick Wall for his scientific support. He reiterated ICARDA's commitment to do its best to make out of CANA project a success story. ICARDA and its Director General are putting emphasis on CA and are now having many projects in this field.

8. Summary of decisions and actions for follow up: to be completed by Ali (only major ones with who will follow up? Names

- a. All platforms are requested to comply to the plan of work agreed upon during the annual coordination meeting (action: National Coordinators)
- b. Develop a calendar of events and exchange of scientists with precise dates (action: National Coordinators and ICARDA)
- c. Posting two Australian scientists in the region on modelling activities (Action: Rural Solutions SA and ICARDA)
- d. To meet ACIAR request on having the plan of work before ready before holding the Steering Committee meeting (SCM), it is necessary to have separate dates for the regional technical coordination meeting and the steering committee meeting (Action: ICARDA)
- e. Organize advocacy meeting separately from the SCM (Action: ICARDA and National Coordinators)
- f. Enhance linkages with other CA initiatives (ACIAR Iraq, IFAD/CLCA Project, Mauritania, Libya, etc.) through their participations to the spring CANA travelling workshop (Action: ICARDA)

Appendix 1. Agenda of the second SCM



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Second Steering Committee Meeting (SCM)

Algiers, 30 September 2013

Venue: Algiers

Date: 30 September 2013; 14:00-17:00

Participants :

- Dr. Mohamed El Mourid, Regional Coordinator, North Africa Program, ICARDA (chair)
- Dr. Patrick Wall, ACIAR representative
- Dr. Barry Mudge, Rural Solutions SA representative
- Dr. Oussama Kheriji, Director General INGC, Tunisia
- Dr. Rachid Mrabet, Director Research Division, INRA Morocco
- Dr. Omar Zaghouane, Director General ITGC, Algiers, Algeria
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- Dr. Boubaker Thabet, Project National Coordinator- Tunisia, INAT Tunisia (observer)
- Dr. Oussama El Gharras, Project National Coordinator- Morocco/ CRRA Settlat, INRA Morocco (observer)
- Mr. Djamel Houassine, Project National Coordinator- Algeria (observer)
- Dr. Ali Nefzaoui, Technical Coordinator CANA ACIAR, North Africa Program, ICARDA (observer)

Agenda

14:00 – 14:15	Opening: statements of ICARDA, Host Country, ACIAR, and RSSA	M. El Mourid, O. Zaghouan, P. Wall, B. Mudge
14:15-14:30	Approval of the minutes of the First SCM	
14:30-14:50	Presentation of Project achievements 2012-13	B. Thabet
14:50-15:10	Presentation of the POWB 2013-2014	O. El Gharras
15:10-15:25	Monitoring & Evaluation of CANA Project	M. Malki
15:25-15:45	Regional activities and financial report	A. Nefzaoui
15:45-16:15	Discussion and approval of POWB 2013-2014	
16:15-16:45	Any other business	
17:00	Closing	

Appendix 2
Highlights of major achievements 2012-13

Objective 1: Analyze constraints to CA adoption	Themes	Areas of success	Challenges
1.1 Characterization of country platforms	Socioeconomic aspects	Baseline survey conducted and indicators computed	Analysis to be further explored
	Agro ecological aspects	Information available	Documents are to be further homogenized
	Typology of farms and farming systems	- Served as a basis for sampling - Targeted farm types are pre-specified by project	Specific studies using statistical clustering analysis are up to individual teams to undertake
	Similarity analyses		Yet to be carried out
Objective 2: Fine-tuning of CA Knowhow	Themes	Areas of success	Challenges
2.1. Develop and test affordable ZT seeding machinery and crop establishment systems for small to medium sized farms	2.1.1. International inventory of suitable low-cost seeders	Carried out in a synchronized way	Seeders yet to arrive
	2.1.2. Review existing conventional drills and suggest suitable modifications	Underway in Algeria & Tunisia Compromised in Morocco	Modifications to take into consideration farmer and service provider needs
	2.1.3. Design and test ZT drill prototypes	Design very advanced	Work to be completed in Algeria
	2.1.4. Manufacturing and marketing of prototypes	Contacts with manufacturers established	Manufacturing & marketing modalities under study
2.2. Fine-tune weed management and crop sequences for sustainable land & water management	2.2.1. Study dynamics of weeds and develop an integrated management of weed control including herbicide resistance	Weed seed banks set up and alternative chemical treatments tested on researcher managed trials	Implementation & results were quite sensitive to weather conditions that prevailed in 2012/13 (Tunisia)
	2.2.2. Test crop sequence options to enhance diversification and sustainable productivity	On farm trials of innovative crop sequences installed & validated	Other options (crop mixture) yet to be further validated Alternatives to fallow to be determined
2.2. Fine-tune weed management and crop sequences for sustainable land & water management	2.2.3. Assess soil quality & health along with water productivity under CA system	Soil physico-chemical and biological characteristics, Soil borne diseases & Soil moisture assessment initiated	Parameters to be followed up on a continuous basis

2.3. Optimize crop residue management and livestock feeding under CA systems.	2.3.1. Technical and economic assessment of trade-offs between surface cover and animal productivity	Trials installed promising results obtained	Control illicit grazing
	2.3.2. Develop and test alternative integrated feeding options (forage crops, alley-cropping, by-products)	Researcher on farm trials installed (new forage crops and Alley cropping)	Additional diversify in feeding sources needed
Objective 3: Enhance the capacity of NARES staff and other stakeholders to practice and promote CA		Areas of success	Challenges
3.1. Raise awareness on CA system potential benefits and shortcomings among farmers, private sector including manufacturers, NGOs, and decision-makers		Workshops involving most stakeholders organized in 3 platform	Efforts to be continued and argumentation power to be improved
3.2. Conduct on-job training of all stakeholders		Trainings organized for most stakeholders (10)	More of this needed
3.3. Use Australian experience to upgrade national expertise in CA		Australian and ICARDA's scientists fruitful visits to the region organized	To be consolidated and intensified
3.4. Conduct farmer field schools to enhance stakeholder co-learning and farmer-to-farmer innovation		Some Field days were organized	Focus more on field schools led by farmers & facilitated by research and extension institutions
3.5. Enhance knowledge sharing and dissemination through brochures, newsletters, website and media		Some brochures were developed CANA Website under construction	More is needed
3.6. Promote CA networking in the region aiming at establishing CA hub in North Africa		Active interaction observed between NARES , ICARDA, ACIAR , Rural Solutions and national team scientists taking place	To be continued and intensified

Appendix 3
Summary of the POW & B for 2013-14

Objective 1. To identify constraints to adoption of CA by small holder farmers and ways of enhancing adoption, most importantly identifying and testing socio-economic options

- 1.1: Conduct similarity studies to be led by ICARDA,
- 1.2: Analyse household behavioural change towards CA practices,
- 1.3: Investigate enabling policy and institutional options to promote CA adoption,
- 1.4: Conduct ex-ante cost benefit analyses of CA options in comparison with farmers' practices.

Objective 2: To identify and test improvements in seeding machinery, and in weed and biomass management of CA systems

No.	Activity	Methodology
<i>Sub-objective 2.1. Develop and test affordable ZT seeding machinery and crop establishment systems for small to medium sized farms</i>		
2.1.2	<ul style="list-style-type: none"> ➤ Review existing conventional drills in the countries ➤ Develop improvements to enable ZT seeding 	<ul style="list-style-type: none"> ✓ Mechanisation survey component in the <i>Agro-economic survey to be completed (objective 1)</i>. ✓ Develop modification kits for Algeria and Tunisia (design solutions, source items) in partnerships with manufacturers – <i>coordinate between partners among platforms</i>.
2.1.3	<ul style="list-style-type: none"> ➤ Design a new ZT drill prototype to meet key specifications identified. ➤ Test new ZT drill locally produced 	<ul style="list-style-type: none"> ✓ Drill prototypes manufactured at partner's cost, with project technical support <ul style="list-style-type: none"> • Fine-tuning commercial & manufacturing. • Improve/duplicate Syrian seeder concept locally (in full or in part) (Algeria, Morocco, and Tunisia) • Prototype design underway and the technical review feasibility study for Algeria. ✓ Pre-testing (functionality – calibration) – on station and on-farm.
<i>Sub-objective 2.1. Develop and test affordable ZT seeding machinery and crop establishment systems for small to medium sized farms</i>		
2.1.4	<ul style="list-style-type: none"> ➤ Undertake field performance assessment of a range of ZT drill options. 	<ul style="list-style-type: none"> ✓ Develop and implement protocol of seeders evaluation (Pre-testing of functionality/calibration & operator manuals). ✓ Seeders performance evaluation in the field (relative/absolute assessment).
2.1.5	<ul style="list-style-type: none"> ➤ Engage local manufacturers and farmers in the development, ➤ and promotion of low cost appropriate ZT machinery option. 	<ul style="list-style-type: none"> ✓ Identify and engage machinery partners with capacity/commitment in the CA sector. ✓ Consult farmers on ZT seeders experiences.
2.1.6	<ul style="list-style-type: none"> ➤ Conduct economic assessment and investment opportunities of the new ZT drills. 	<ul style="list-style-type: none"> ✓ Not yet scheduled
<i>Sub-objective 2.2. Fine-tune weed management and crop sequences for sustainable land and water management</i>		

2.2.1	➤ Study the dynamics of weeds and develop an integrated management for weed control.	<ul style="list-style-type: none"> ✓ Report on dynamics of weeds at crop sequence at the on farm trials (at the final year at least). ✓ Options (herbicide) of weed management tested in 4 on farm researcher managed trials/platform.
2.2.2	➤ Test crop sequence options.	<ul style="list-style-type: none"> ✓ Establish plots of promising adapted species and observe the effects on the succeeding cereal crops. ✓ Establish on 4 farms in each Platform
2.2.3	➤ Assess soil quality/ health and water productivity	<ul style="list-style-type: none"> ✓ Soil fertility and health and water productivity in 4 farms (same as in 2.2.2). ✓ Report on soil organic matter and moisture content and soil infiltration and compaction indicators in the rotation trials and water use efficiency /productivity.
<i>Sub-objective 2.3. Optimize crop residue management and test alternative livestock feeding systems under CA</i>		
2.3.1	➤ Technical and economic assessment of trade-off between surface cover and animal productivity	<ul style="list-style-type: none"> ✓ 3 per platform Residue trials (2 ha each) with different levels of residues removed .
2.3.2	➤ Develop and test alternative integrated feeding options	<ul style="list-style-type: none"> ✓ 3 per platform Forage Trials (0.4-1.1 ha each) <ul style="list-style-type: none"> • Alley cropping : (10 m between rows) • Rotation : biennial forage/cereal rotation; both crops each year.

Objective 3 To enhance the capacity of NARES staff and other stakeholders to practice and promote CA

No.	Activity	Outputs / milestones
3.1	➤ Raise awareness on CA system potential benefits and shortcomings	<ul style="list-style-type: none"> ✓ 3 country workshops with relevant stakeholders: <ul style="list-style-type: none"> • Field day on calibration and maintenance of ZT seeders, • Field day on calibration and safety on sprayers, • .Field day on weed management under CA. ✓ Informative leaflets disseminated and appropriate media events held.
3.2	➤ Conduct on-job training of all stakeholders	<p>For the 3 countries:</p> <ul style="list-style-type: none"> ✓ Travelling workshop 5-15 April 2014. ✓ Training on CA/Crop - livestock integration Algeria June 2014. ✓ Workshop on M&E Morocco, February 2014. ✓ Training on Innovation Platforms Morocco, 21-25 Oct. 2013. ✓ CA word congress participation. ✓ Regional course on spraying technologies Morocco, Jan. 2014.
No.	Activity	Outputs / milestones
3.3	➤ Use Australian experience to upgrade national expertise in CA	<ul style="list-style-type: none"> ✓ From North Africa to Australia: 5 Visits <ul style="list-style-type: none"> • 3 scientists from Algeria. • 3 from Morocco. • 2 from Tunisia. ✓ From Australia to North Africa: 5 Visits (J.desbioles; B. Mudge, G. Gurjeet, J. Fortune, A. Mayfield). ✓ 2Young Scientist on APSIM and Bio-economical modelling.
3.5	➤ Enhance knowledge sharing and dissemination through brochures, newsletters, website and media	<ul style="list-style-type: none"> ✓ 1 Brochures introducing the project. ✓ 3 Brochures introducing ZT principles and benefits. ✓ Newsletter (bi-annual) (ICARDA) ✓ Project website produced and widely distributed (ICARDA)

3.6	➤ Promote CA networking in the region aiming at establishing CA hub in North Africa	✓ <u>Intra-regional visits exchanged involving:</u> <ul style="list-style-type: none"> • Morocco to Algeria and Tunisia: 6 scientists + 2 farmers • Algeria to Morocco and Tunisia: 6 scientists + 1 farmer • Tunisia to Algeria and Morocco: 6 scientists + 2 farmers
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Farmers' managed trials

- 20 farmers using ZT seed drills in each platform.
- 200X3 ha of ZT implemented.
- Implement CA options in comparison with farmers' practices.
- Minimum data to be collected is yields, cultural practices and costs.

Appendix 4
Regional activities and financial report

Achievements

1. Spring Travelling Workshop:
 - Early April, 2014 (5-20 April)
 - Starting from Fernana platform
 - Involve participants from Mauritania, Sudan, Libya, CLCA and ACIAR/Iraq
2. Regional course on CA/ crop livestock integration in collaboration with CLCA project
 - Algeria, June 2014
3. Working Workshop on M&E
 - Morocco, February, 2014
 - 2 candidates/ platform
4. Training on Innovation platforms
 - Morocco 21-25 October 2013
 - Urgent: Identify 1 participant from each platform
 - CA World congress:
 - Canada, June, 2014
 - Urgent: identify papers and participants
6. Website:
 - <http://www.cana-project.org>
 - Waiting for platforms input
 - Designate today a focal point per platform
7. Reporting:
 - Full technical report 2012-13: Immediate
 - Progress report: 31 Dec 2013
 - Annual report: 30 May 2014

Exchange of scientists

1. Posting young Australian scientists in North Africa (2 years):
 - Crop monitoring decision tools and risk management: Sub. Objective 2.2 (ICARDA/Morocco)
 - Bio-economical Modelling (resilience, crop/livestock integration): Sub. Objective 2.3 in collaboration with CLCA; (ICARDA/Tunis)
2. Visit of Australian Scientists to North Africa:
 - Traveling workshop
 - Annual coordination & planning meeting
 - Jacky Desbiolles: Algeria, Oct. 2013
 - ?
3. Visit of North Africa scientists to Australia:
 - Names,
 - Themes,
 - Dates
 - Australian counterparts)

CA North Africa Hub

1. Linking CANA project to other CA initiatives (participation to annual coordination meetings, share information on capacity development and linking websites) :
 - IFAD/ CLCA Project
 - ACIAR Iraq,
 - Egypt (water),
 - SIMLESA (Sustainable Intensification of Maize-Legume Systems for Food Security in Eastern and Southern Africa /Ethiopia)
2. Travelling Workshops with participation from other African countries (Mauritania, Libya, Sudan)
3. Organizing joint training courses
4. Promoting networking within NA region and others countries from Africa:
 - Joint research teams in agronomy, weed science, socio-economics, machinery
5. Website

Financial Report

	1290 (Tunisia)	1292 (Algeria)	1293 (Morocco)	1295 Coordination	1296 RSSA	Total
Amounts received, AU\$						
Amounts received, AU\$	171325	171325	171325	460534	171465	1 145 974
Expenses July 1st, 2012-June 30th, 2013 (AU \$)						
Personnel	-	-	-	50043	-	50043
Supplies and Services	27275	21394	42735	29138	129	120671
Travel	14179	3236	23304	7860	-	48579
Infrastructure Costs	2161	1284	3441	4534	7	11426
Capital Items/asset usage	-	-	-	-	-	-
Total	43615	25913	69481	91575	136	230719