

Activity Report 2013
University of Agriculture, Faisalabad (UAF)

Programme: Higher Education Excellence
in Development Cooperation (exceed)

"exceed" Center: International Center for
Development and Decent Work (ICDD)

Reporting period: 01.01.2013-31.12.2013

DAAD Project Number: 57045118

ICDD Project Number: 5 4034 40

Scientific Project Leader: Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor


Date and Signature:



Vice-Chancellor
University of Agriculture,
FAISALABAD.

Name of Financial Officer: Umar Saeed, Treasurer

Date and Signature:



TREASURER.
University of Agriculture,
FAISALABAD.

1) Situation at the Beginning of the Reporting Period¹

At the beginning of the reporting period, the students were at different stages of their respective research projects. The detail is given below;

Ms. Ghayoor Fatima (ICDD PhD student) is doing her research on diversity and nutritional variation in Pakistan dates under the supervision of Prof. Andreas Buerkert and Prof. Iqrar Ahmad Khan. At the beginning of the reporting period she was conducting literature review. Soil analysis was also in progress for physical and chemical properties of soil.

Ms. Anisa Naeem (PhD student) is conducting her research on the genetic diversity and origin of date palm in Balochistan, under the supervision of Dr. Sultan Habibullah Khan, at Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad. At the beginning of the reporting period she was conducting literature review and finalizing her research proposal write-up.

Mr. Muhammad Salman Haider is MSc (Hons) student at the Institute of Horticultural Sciences, UAF working under the supervision of Prof. Dr. Iqrar Ahmad Khan. His research project is about morpho-biochemical analysis of date-palm germplasm. His work was sponsored from ICDD Date palm project. At the beginning of the year 2013, he was collecting and preparing the samples for analysis.

Mr. Syed Ali Raza is MSc (Hons) student at the Institute of Agri. Extension & Rural Development UAF. He is conducting research on the value chain of date in Khairpur district (Sindh) under the supervision of Dr. Babar Shahbaz. At the beginning of the reporting period, he was finalizing his synopsis write-up and developed research instrument for data collection.

Ms Sabah Saleem (ICDD PhD student) is working on investment and employment creation by international return migrants in rural areas of Pakistan under the supervision of Prof. Dr. Beatrice Knerr and Dr. Izhar A. Khan. In the beginning of the year she was finalizing the survey questionnaire, plan and respondents.

2) General Conceptual Developments,² Changes Compared to the Preceding Year,³ Personnel Situation,⁴ Third-Party Subsidies (if applicable)⁵

Mr. Muhammad Salman Haider analyzed 16 date palm cultivars based on the 68 vegetative and reproductive characters. He also analyzed the samples for total Phenolic contents (TPC), DPPH, total sugars, total soluble protein and enzymes (SOD, POD, CAT) at Khalal, Rutab and Tamar stages of date fruit development. He also

¹ e.g. number of ICDD PhD students, status of their PhD theses, number of ICDD Research Clusters in which the university is involved, Planned Activities like Conferences etc.

² e.g. development of double degree programs, cooperation with new institutes of the university etc.

³ e.g. changes of staff or of responsibilities, new research clusters, new PhD students

⁴ staff in charge of ICDD matters

⁵ e.g. Personnel Costs and Staff for ICDD administration funded by the partner university and which are not included in the partner budget, follow-up scholarships for students funded through exceed/the ICDD, follow-up funding for research clusters that originated at the partner university

finalized his thesis write-up and submitted research papers for publication. **Mr. Syed Ali Raza** completed literature review and finalized interview schedule, visited Date-palm Research Institute and Date processing units in Sindh for the collection of qualitative data. He has also visited date-palm orchards and date market for key-informant interviews in Khairpur district of Sindh. Detail of Date palm Cluster is as under: -

Prof. Dr. Iqrar A. Khan visited Merida and Mexico city, Mexico from March 16 to 28, 2013 to participate in the ICDD Annual Thematic Conference and Steering Committee meeting there. The **PhD students** Ms. Ghayoor Fatima, Ms. Saadia Hanif, Ms. Sabah Saleem, Mr. Asif Raza and Mr. Sami-ul-Allah also participated and presented their work. His travel costs were paid out of the ICDD Kassel budget (DAAD-Lfd. 3.1.35).

Prof. Dr. Iqrar A. Khan, Dr. Abdul Ghafoor and **Dr. Irfan Afzal** participated in the Annual Thematic Conference "The Roles of Work, Food and Cash in Overcoming Poverty" in Mumbai, India from September 28-30, 2013 and presented their papers. They did not receive any funding for this.

3) Activities Performed and their Impact⁶

3.2 Consumables⁷

Material Costs Research Cluster Hensel/Munir⁸

- *marketing material, printing of project results (RC Hensel/ Munir)* (Finance Plan Reference: 2.5.5)⁹

Prepared material for the international conference titled "Renewable Energy Technologies in Pakistan" held on Oct, 1-3 2013 in the University of Agriculture, Faisalabad (venue: New Senate Hall). Invitation cards, brochures, banners, posters, conference bags, certificates and shields were prepared. For further information on the conference, please the attachment at the very bottom of this activity report.

Material Costs Research Cluster Khan/Bürkert¹⁰

- *research material (RC Khan/Bürkert)* (Finance Plan Reference: 2.5.9)

Auto cleavable single pippettors 0.1 to 100ul were purchased for Anisa Naeem's research on date palm and following PhD generations.

⁶ In every section, in addition to providing general information, it is also of particular importance to fill in what has actually been done (in comparison to what had been planned at the beginning of the year).

⁷ In this section, please elaborate what exactly was purchased/produced (e.g. calendars, posters, videos, etc.) and for what exact purposes.

⁸ For this section, the required information needs to be collected from the research cluster holders.

⁹ Please attach an example of the printed project result material.

¹⁰ For this section, the required information needs to be collected from the research cluster holders.

Please find the statement of surrender in the attachment.

Material Costs UAF

- **printing of conference documentation** (Finance Plan Reference: 2.5.1)¹¹

Prepared ICDD Bags, Tags, brochures, letter Pad, Research book pamphlet and banners etc. for ICDD Conference "Linkages, Value Chains and Development along the Rural-Urban interface" (January 9-12, 2014).

For more details on the conference, please see the attachments.

- **books/journals UAF** (Finance Plan Reference: 2.5.28)¹²

Keeping in view the research requirements of ICDD Scholars working on Date palm, the following books of International Authors were purchased:

1. Molecular Biology of the Gene by Watson, Baker, Bell, Gann, Levine, Losick.
2. Climate Change Mitigation and International Development Cooperation by Ryo Fujikura & Tomoyo Toyota

- **stationary/photocopying and other office consumables UAF** (Finance Plan Reference: 2.5.29)

Shifted to 2.5.28 and 2.5.30, resources were used to print ICDD /University Calendar and to buy books for the PhDs.

- **marketing material UAF** (Finance Plan Reference: 2.5.30)
Printing of ICDD /University Calendar, purchase of banners

- **money transfer costs UAF** (Finance Plan Reference: 2.5.31)

No expenditure incurred for transfer of funds from the University of Kassel to the UAF.

¹¹ Please attach the results.

¹² Please enlist the books bought (author and title) and briefly elaborate on their long-term purpose for the ICDD project.

3.3 Mobilities and Subsistence Costs¹³

UAF

- **Travel costs 15 persons (UAF Conf) & Subsistence Costs UAF Conf (15 Persons, 4 days)** (Finance Plan Reference: 3.1.2 & 3.2.1)

Travel costs for the International participants in the ICDD conference “Linkages, Value Chains and Development along the Rural-Urban interface” (January 9-12, 2014). The DAAD agreed on 28.10.2013 that the travel costs for the conference can be paid out of the 2013 budget. The subsistence costs will be paid out of the 2014 budget. Therefore, no expenses are enlisted under 3.2.1.

List of participants

Sr.#	Name	Date Covered	No. of days
1	Anbreen Ajaib, SSD, Pakistan	08-09.01.2014	2
2	Dr. Ranjith Perera, Oman	09-12.01.2014	4
3	Mr. Andrew Bennie, South Africa	09-12.01.2014	4
4	Miss Sudeh Dehnavi, Germany	09-12.01.2014	4
5	Dr. Mohan Nandha, India	09-12.01.2014	4
6	Dr. Swaid Abbas, Hong Kong (Expert)	09-12.01.2014	4
7	Dr. Abdul Salam Lodhi, Pakistan	09-12.01.2014	4
8	Dr. Aijaz Ali Kohorroo, Pakistan	09-12.01.2014	4
9	Miss. Sadaf Mehmood, Germany	09-12.01.2014	4
10	Mr. Keshab K. Batajoo, Japan	09-12.01.2014	4
11	Mr. Abdullah, Afghanistan	09-12.01.2014	4
12	Zikarullah Safi, Afghanistan	09-12.01.2014	4
13	Saeed Shafqat, Lahore, Pakistan	10-12.01.2014	3
14	Muhammad Nafees, Islamia University, BHPR	09-12.01.2014	4
15	Muhammad Tariq, TT Singh, Pakistan	09-12.01.2014	4
16	Dr. Sami Ullah, Germany	09-12.01.2014	4
17	Sharafat Ali, Kot Sultan, Layyah	09-12.01.2014	4
18	Ruksana Kauser, Islamia University Islamabad	09-12.01.2014	4
19	Dr. Ishtiaq Ahmad Rajwana, BZU, Multan	09-12.01.2014	4
20	Hashim Zameer, BZU Campus, Layyah	09-12.01.2014	4
21	Allah Baksh, Noshera, Khushab	09-12.01.2014	3

See the **attachments** for

- the abstract program pages
- ICDD brochure
- and ICDD card

¹³ Please provide information on all of the individual mobilities. Thereby the following question should be answered: Who travelled when, from where to where and why?

- **Local travel costs / 5 Asian Participants (UAF Conf) & Subsistence costs for 5 Asian Participants (UAF Conf)** (Finance Plan Reference: 3.1.3 & 3.2.31)

Travel costs for the National participants in the conference “Linkages, Value Chains and Development along the Rural-Urban interface” (January 9-12, 2014).

The DAAD agreed on 28.10.2013 that the travel costs for the conference can be paid out of the 2013 budget. The subsistence costs will be paid out of the 2014 budget. Therefore, no expenses are enlisted under 3.2.31.

For the list of participants, see the section on DAAD Lfd. 3.1.2 & 3.2.1.

- **PhD Sabah Saleem travel grant field research Pakistan** (Finance Plan Reference: 3.1.6)¹⁴
- **Ms Sabah Saleem** surveyed and collected data from various districts of Punjab. The information was gathered from 228 returned migrants through face-to-face interviews from seven districts of Punjab i.e., Lahore, Rawalpindi, Jehlum, Gujrat, Sargodha, T.T. Singh and Faisalabad.

Paid to Ms Sabah Saleem regarding her petrol and travel expenses during field visit to the different areas of Pakistan.

From	To	Area	Reason
16.02.2013	17.02.2013	Sargodha, Samundri, Gojera	Interviewing Farmers and Govt. Officer
20.02.2013	21.02.2013	TT Singh, Samundri	Interviewing Farmers and Govt. Officer
23.02.2013	27.02.2013	Sargodha, Lahore, Faisalabad	Interviewing Farmers and Govt. Officer
03.03.2013	10.03.2013	Islamabad, Rawalpindi	Interviewing Farmers and Govt. Officer
11.04.2013	14.04.2013	TT Singh, Lahore	Interviewing Farmers and Govt. Officer
17.04.2013	20.04.2013	Islamabad, Pir Mehal, Lahore	Interviewing Farmers and Govt. Officer
16.05.2013	24.05.2013	Mir Pur, Gujrat, Jehlum, Lahore	Interviewing Farmers and Govt. Officer
28.05.2013	30.06.2013	DG Khan, Lahore, Chakwal	Interviewing Farmers and Govt. Officer
10.07.2013	21.07.2013	Rawalpindi, R.Y.Khan, Lahore	Interviewing Farmers and Govt. Officer
21.07.2013	10.08.2013	Rawalpindi, R.Y.Khan, MandiB.Din	Interviewing Farmers and Govt. Officer
15.08.2013	15.09.2013	ISD, Jehlum, Gujrat etc.	Interviewing Farmers and Govt. Officer

20.11.2013	27.11.2013	Ms Sabah Saleem	Lahore and Field areas	Monitoring & Field visit with Prof. Dr. Knerr
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¹⁴ Please also explain briefly the relevance of the field research for the completion of Sabah Saleem's PhD thesis.

Research Cluster Hensel/Munir¹⁵

- **Travel costs in Pakistan for 20 participants of Workshop (RC Hensel/Munir) & Subsistence Costs for 20 participants (RC Hensel/Munir)** (Finance Plan Reference: 3.1.26 & 3.2.21)

Traveling and subsistence costs for 20 participants in Pakistan during ICDD conference entitled "Renewable Energy Technologies in Pakistan" was covered under this budget heading. The international conference was held on Oct, 1-3 2013 in the University of Agriculture, Faisalabad (Venue: New Senate Hall).

The list of 20 participants (to whom the money under the heading Lfd. 3.1.26 and 3.2.21 was paid) is listed below:

Sr.#	Name of Participant	Dates Covered
1	Dr. M. Ijaz Afzal, Canada (Expert)	30.09.2013 to 04.10.2013
2	Ms. Soniya Munir, PU, Lahore	30.09.2013 to 04.10.2013
3	Umm-E-Hant Iqbal, PU, Lahore	30.09.2013 to 04.10.2013
4	Naaeem Ahmad, PDBP	30.09.2013 to 04.10.2013
5	Munazzam Jawad Shahid, PDBP	30.09.2013 to 04.10.2013
6	Tahir ul Qamar, GCU, FSD	30.09.2013 to 04.10.2013
7	Tehreem Jabbar, GCU, FSD	30.09.2013 to 04.10.2013
8	Aqsa Shahbaz, GCU, FSD	30.09.2013 to 04.10.2013
9	Zaaid-ul- Hassan, GCU, FSD	30.09.2013 to 04.10.2013
10	M. Sufyan Siddique, GCU, FSD	30.09.2013 to 04.10.2013
11	Mamoona Sadiq, GCU, FSD	30.09.2013 to 04.10.2013
12	Amir Mehmood Shah, GCU, FSD	30.09.2013 to 04.10.2013
13	Gohar Riaz khan, GCU, FSD	30.09.2013 to 04.10.2013
14	Hafsa Qamar, GCU, FSD	30.09.2013 to 04.10.2013
15	Anum Jacob, NFC, FSD	30.09.2013 to 04.10.2013
16	Engr. Anum Naseer, UET, Lahore	30.09.2013 to 04.10.2013
17	Shahroz Hussain, UET, Lahore	30.09.2013 to 04.10.2013
18	Sehar Afshan, UET, Lahore	30.09.2013 to 04.10.2013
19	Haroon Rasheed, UET, Lahore	30.09.2013 to 04.10.2013
20	Imran Khan, UET, Lahore	30.09.2013 to 04.10.2013

For further information on the conference, please the attachment at the very bottom of this activity report.

- **Subsistence Costs for 1 Prof. to Pakistan (RC Hensel/Munir)** (Finance Plan Reference: 3.2.64)

1	Prof. Dr. Oliver Hensel, Germany	30.09.2013 to 04.10.2013
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¹⁵ For this section, the required information needs to be collected from the research cluster holders.

Paid to Professor Dr. Oliver Hensel for his participation in the International Conference titled "Renewable energy technologies in Pakistan".

The travel costs were paid by ICDD office, University of Kassel, Germany.



Key note address by Prof. Hensel at the international conference

For further information on the conference, please see the attachment at the very bottom of this activity report.

Research Cluster Khan/Bürkert¹⁶

- **travel costs to Oman (RC Kahn/Bürkert)** (Finance Plan Reference: 3.1.31)
No expenditure has been made. Because a very tight activity calendar of Prof. Dr. Iqrar Ahmad Khan in 2013.
- **local travel costs for field research / date palm research (RC Kahn/Bürkert)**
(Finance Plan Reference: 3.1.33, 3.2.26)
Travel cost for Miss Ghyoor Fatima ICDD PhD Scholar for her tour to Islamabad, Jhang, Bahawalpur and surrounding areas.

Ms Ghyoor Fatima conducted literature review, initiated morphological studies, and household survey in different districts of Punjab, KPK, Sindh and Balochistan. She also did lab analysis of soil and fruit samples. Initial results were presented during date-palm conference held in Multan. Research papers are also written and submitted to the peer reviewed journals for publication. Report is detailed below:

¹⁶ For this section, the required information needs to be collected from the research cluster holders. Please match the travel positions with the corresponding subsistence costs positions.

List of activities related to PhD project undertaken in the months from April to October 2013

- 03/04/2013-20/04/2013: Date fruit analysis (Lab work)
- 01/05/2013-15/05/2013: Literature review
- 16/05/2013-30/05/2013: Material arrangement for field work and HH surveys
- 01/06/2013-12/06/2013: Arrangements for field visit (guide, hotel reservation)
- 15/06/2013-10/07/2013: Sampling of Dates, soil, morphological studies, HH

Surveys in Province KPK (D.I.Khan)

- 15/07/2013-05/08/2013: Sampling of Dates, soil, morphological studies, HH

Surveys in Province Sind (Kheirpur)

- 15/08/2013-10/09/2013: Sampling of Dates, soil, morphological studies, HH

Surveys in Province Balochistan (Panjgur)

- 15/09/2013-30/09/2013: Preparation of soil and Dates samples for lab analysis
- 01/10/2013: Lab work

Research plan and time schedule of PhD project for the next reporting period from October 2013 to March 2014:

- 01/11/2013-02/02/2014: Lab work
- 01/03/2014: Thesis Write up

Conference / workshop participated in the reporting period:

Fatima, G., I. A. Khan, M. J. Jaskani and M. Hameed, 2013. Ecological significance of root anatomy in date palm (*Phoenix dactylifera* L.) cultivars from diverse origins. International conference on date palm: Present status and future prospects. 2nd- 4th September 2013. Islamia university, Bahawalpur, Pakistan.

01.07.2013	04.07.2013	Prof. Dr. Andreas Buerkert, Ms Ghyoor Fatima	Islamabad, Jhang	Visit of Islamabad. Visit of Datepalm area of Jhang
27.07.2013	02.08.2013	Ms Ghyoor Fatima	Jhang to Dera Ismail Khan	Visit of Datepalm area eastern Punjab Province and KPK Province
08.08.2013	06.08.213	Ms Ghyoor Fatima	Dera Ismail Khan to Khairpur	Visit of Datepalm area of Khairpur Sindh

Travel cost for Ms. Anisa Naeem for her field Research on Date palm.

Ms. Anisa Naeem completed her Ph.D. synopsis write-up and defended at the university level. She developed basic understanding of different software for genome sequence analysis, analysed 271804 fasta sequence clones of date-palm genome to mine SSR primers, GPS understanding for sample collection. Primer designing and

selection of 50 SSR primers and collection of 20 samples from Turbat was also done. She also collected 34 varieties of *P. dactylifera* and 10 species of Palmae from Date Palm Research Station Jhang and University of Agriculture, Faisalabad.

List of activities related to PhD project undertaken in the months from April to October 2013

- 01/04/2013-30/04/2013: Literature review
- 01/05/2013-15/05/2013: Synopsis write up
- 16/05/2013-30/05/2013: Preparation of Synopsis defence
- 01/06/2013-20/06/2013: Understanding of different softwares for genome sequence analysis.
- 01/07/2013-31/07/2013: Analysis of 271804 fasta sequence clones of date Palm genome to mine SSR sequences
- 01/08/2013-25/08/2013: Primer designing and selection of 50 SSR primers
- 01/09/2013-10/09/2013: GPS understanding for sample collection and communicated in Balochistan for sample collection
- 15/09/2013-30/09/2013: Collection of 20 samples from Turbat

Research plan and time schedule of PhD project for the next reporting period from October 2013 to March 2014:

- 01/10/2013-31/10/2014: Troubleshooting of Genome analysis
- 01/11/2013-30/03/2014: More Primer designing and selection
- 01/12/2013-31/12/2014: Visit to Balochistan for Sample collection from Panjgoor, Wahshuk and more from Turbat
- 01/01/2013-31/01/2014: DNA extraction, quantification
- 01/02/2013-31/02/2014: SSR PCR
- 01/13/2013-28/03/2014: PCR product purification, sequencing

Conference/Workshop participated in the reporting period:

Naeem A., A. A. Khan ., H.M. N. Cheema ., I. A. Khan and A. Buerkert. DNA barcoding for species Identification in Palmae Family. International conference on date palm: Present status and future prospects. 2nd- 4th September 2013. Islamia university, Bahawalpur, Pakistan.

List of taught courses/seminars attended:

- Molecular system biology
 - Advance Plant Biochemistry
 - Transgenic Plants
 - Seminar on "Balochistan as the centre of Origin of Date palm."
- Review on Origin and History of Date palm in Balochistan.

03.06.2013	04.06.2013	Ms Anisa Naeem	Multan	Visit of Datepalm Field area
18.06.2013	18.06.2013	Ms Anisa Naeem	PARS	Visit of Datepalm Field area
08.08.2013	08.08.2013	Ms Anisa Naeem	Jhang	Mobil Oil and Filters change, and visit of Jhang

16.08.2013	16.08.2013	Ms Anisa Naeem	PARS	Visit of Datepalm Field area
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Travel cost for Mr. Sammar Abbas and Mr. Salman Haider for their Field research on date palm.

Muhammad Salman Haider, MSc (Hons)

Muhammad Salman Haider is MSc (Hons) student at the Institute of Horticultural Sciences, UAF working under the supervision of Prof. Dr. Iqrar Ahmad Khan. His research project is about morpho-biochemical analysis of date-palm germplasm. At the beginning of the year 2013, he was collecting and preparing the samples for analysis.

Muhammad Salman Haider morphologically characterized sixteen date palm cultivars based on the 68 vegetative and reproductive characters. He also analyzed the samples for total Phenolic contents (TPC), DPPH, total sugars, total soluble protein and enzymes (SOD, POD, CAT) at Khalal, Rutab and Tamar stages of date fruit development. He also finalized his thesis write-up and submitted research papers for publication.

Muhammad Salman Haider (MSc Student) "Morpho-biochemical analysis of date palm (*Phoenix dactylifera* L.) germplasm". He analyzed the effect of maturity on important biochemical on fruit of 34 date palm cultivars. The samples were analyzed for total phenolic contents (TPC), DPPH, total sugars, total soluble protein and enzymes (SOD, POD, CAT) at Khalal, Rutab and Tamar stages of date fruit development. He completed his thesis in 2013 and submitted research papers for publication.

Research papers (published and forthcoming) Haider, M. S., Khan, I. A., Naqvi, S. A., Jaskani, M. J., Khan, R. W., Nafees, M., Maryam and I. Pasha. Fruit developmental stages effects on biochemical attributes in date palm. Pak. J. Agri. Sci., Vol. 50(4), 577-583; 2013.

Haider, M. S., Khan, I. A., Jaskani, M. J., Naqvi, S. A., Khan, M.M. (forthcoming). Biochemical attributes of dates at three maturation stages. Emirates Journal of Food and Agriculture (Accepted, will be published in special issue on date palm 2014).

02.04.2013	02.04.2013	Mr. Syed Sammar Abbas Naqvi	Jhang	Meeting with Farmers
11.04.2013	11.04.2013	Mr. Muhammad Salman Haider		Mobil Oil and Filter change
17.04.2013	17.04.2013	Mr. Syed Sammar Abbas Naqvi	Proka Farm	Visit of Proka Farm Faisalabad
25.04.2013	25.04.2013	Mr. Muhammad Salman Haider	Jaranwala	Visit of Datepalm Field area
30.04.2013	30.04.2013	Mr. Syed Sammar Abbas Naqvi	Proka Farm	Visit of Proka Farm Faisalabad
09.05.2013	09.05.2013	Mr. Syed Sammar Abbas Naqvi and Mr. Muhammad Salman Haider	Jhang	Meeting with Farmers
27.05.2013	27.05.2013	Mr. Syed Sammar Abbas Naqvi and Mr.	Jaranwala	Visit of Datepalm Field area

		Muhammad Salman Haider		
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- **local travel costs field research in Pakistan (RC Khan/Bürkert)** (Finance Plan Reference: 3.1.54, 3.2.26)
 Travel Cost for Mr. Syed Ali Raza, ICDD MSc Scholar for his field Research on date palm
 Travel Cost MS Riaz Bibi, ICDD MSc Scholar for her field Research on date palm.
 Travel Cost for Ms Irum Shahid, ICDD MSc Scholar for his field Research on date palm

Syed Ali Raza is MSc (Hons)

Syed Ali Raza is MSc (Hons) student at the Institute of Agri. Extension & Rural Development UAF. He is conducting research on the value chain of date in Khairpur district (Sindh) under the supervision of Dr. Babar Shahbaz. At the beginning of the reporting period, he was finalizing his synopsis write-up and developed research instrument for data collection.

Syed Ali Raza defended his synopsis. He has completed literature review and finalized interview schedule, visited Date-palm Research Institute and Date processing units in Sindh for the collection of qualitative data. He has also visited date-palm orchards and date market for key-informant interviews in Khairpur district of Sindh.

Syed Ali Raza (MSc student): "The study of value chain of date in district Khairpur, Sindh". He visited Date Research Institute and processing units in Khairpur (Sindh) during August 2013 for qualitative data collection and conducted household survey in December 2013.

The study of Syed Ali Raza will be used to comprehend the date palm usage and processing patterns at the local level, its marketing scenario and potential at international level as well as its role in decent living of farmers in Sindh. One of the major objectives of his research is to recommend policy guidelines for agricultural extension services.

The M.Sc. student, Ali Raza, has conducted his field research in Balochistan and Sindh without any major problem.

Sustainable value creation

The research studies being conducted by Ph.D. and M.Sc. students will document the level of genetic diversity of date palm in different areas of Pakistan which can improve the ongoing breeding programs of this important crop of the region. The link between bio-chemical/nutritional differences in dates and dates value chain is being explored by Ghayoor Fatima. The studies of Syed Ali Raza will identify the constraints faced by industry regarding date value addition and better profitability.

03.09.2013	03.09.2013	Mr. syed Ali Raza, Irum Shahid, Riaz Bibi	Jhang	Meeting with Farmers
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11.09.2013	18.09.2013	Mr. syed Ali Raza, Irum Shahid, Riaz Bibi	Bahawalpur	Meeting with Farmers
26.09.2013	26.09.2013	Mr. syed Ali Raza, Irum Shahid, Riaz Bibi	Jaranwala	Meeting with Farmers

- **subsistence costs 7 days / 1 person (RC Khan/Bürkert)** (Finance Plan Reference: 3.2.26)
The cost is shifted to 2014 budget because of a very tight activity calendar of Prof. Dr. Iqrar Ahmad Khan in 2013.

3.4 Scholarships¹⁷

The PhD Scholarship of Fatima Ghayoor was fully administered through the ICDD Kassel. Please refer to the Uni Kassel Activity Report for further details.

UAF¹⁸

- **3 MA scholarships for 10 months UAF** (Finance Plan Reference: 3.2.2)¹⁹
Ms Irum Shahid, Ms Riaz Bibi and Mr. Syed Ali Raza were selected as ICDD Msc. scholars and they were paid 100 Euro per month each from March to December 2013.
Please see the attachments for the **selection protocol**.
- **1 Stipend for PhD students at Partner Universities (January - December) (PhD II) & research lump sum** (Finance Plan Reference: 3.2.10 & 3.2.11) Sabah Saleem
Ms. Sabah Saleem ICDD PhD Scholar was paid Scholarship @ 500EURO per month from January 2013 to December 2013 plus her full research lump sum for 2013.

Research Cluster Hensel/Munir²⁰

- **1 Stipend for 1 MSc Student (100 Euro per month) 6 Months (RC Hensel/Munir)** (Finance Plan Reference: 3.2.20)²¹
Mr. Farrukh Ehsan, Mr. Badar Munir Niazi and Mr. Mudassar Arif were selected as ICDD M.Sc. (Hons.) scholars. They were paid 100 ;Euro per month each from July to August 2013.

¹⁷ Please mention the names of the scholarship holders, the titles of their theses (if they are new PhDs) and the period from when to when they received their scholarships. Please also mention if they received any research lump sums, as well as anything else worth mentioning with regard to the scholarship payments.

¹⁸ Please elaborate on the different positions as explained in the previous footnote.

¹⁹ In case you have not done so already, please do not forget to hand in the corresponding selection protocols. Please note that the date of selection must be prior to the start of the scholarship.

²⁰ For this section, the required information needs to be collected from the research cluster holders.

²¹ In case you have not done so already, please do not forget to hand in the corresponding selection protocols. Please note that the date of selection must be prior to the start of the scholarship.

Please see the attachments for the selection protocol (Annex e).

Research Cluster Khan/Bürkert²²

- *scholarship for 1 local PhD (RC Khan/Bürkert) 10 months* (Finance Plan Reference: 3.2.27)²³
350 € per month paid to PhD scholar Ms Anisa Naeem, working on Date palm, from March to December 2013.

Please see the attachments for the selection protocol (Annex f).

Cancelled and Shifted Activities²⁴

The ICDD conference planned in 2013 was shifted to January 2014. The DAAD agreed on 28.10.2013 that the travel expenses could be claimed from the 2013 budget, while the subsistence costs will be paid out of the 2014 budget.

- Subsistence Costs UAF Conf (15 Persons, 4 days) (Finance Plan Reference: 3.2.1)
- Subsistence costs for 5 Asian Participants (UAF Conf) (Finance Plan Reference: 3.2.31)

Because of a very tight activity calendar of Prof. Bürkert and Prof. Iqrar Khan, the travel to Oman did not take place in 2013:

- *Travel costs to Oman (RC Kahr/Bürkert)* (Finance Plan Reference: 3.1.31)
Cancelled
- Subsistence costs 7 days / 1 person (RC Khan/Bürkert) (Finance Plan Reference: 3.2.26)

4) "Lessons Learned": Feasibility of Further Activities and Modifications Required for the Following Year (if applicable)²⁵

Ghayoor Fatima is studying soil characterization (Hydraulic conductivity, aggregate stability, bulk density and particle size distribution air dried samples, measure electrical conductivity (EC), pH, organic matter (OM), C:N ratio and the concentration of CaCO₃ and CEC). She will also assess morphological and genetic diversity of the

²² For this section, the required information needs to be collected from the research cluster holders.

²³ In case you have not done so already, please do not forget to hand in the corresponding selection protocols. Please note that the date of selection must be prior to the start of the scholarship.

²⁴ Budget Shifts: Please explain any shifts in your budget and why these shifts were necessary.

²⁵ Are there any activities which could be optimized for the following year? And if so: how? Are there any new ideas for the next year of how to optimize processes or introduce new concepts?

5) Assessment of the Benefits/Use in Terms of Development Policy, the Sustainability and the Public Impact of the Activities Performed²⁶

The research of **Ghayoor Fatima** will help in understanding of Morpho-genetic variation of date-palm germ plasm in different regions of Pakistan and their effect on the nutritional properties of dates. Effect of soil chemical and physical properties on the yield and nutritional properties of dates will also be studied. The link between bio-chemical/nutritional differences in dates and dates value chain will be explored. She is also analyzing the socio-economic characteristics of date-palm growers with focus of livelihoods security. Her work will provide policy guidelines for better value chain and decent living of date growers in the marginal areas of Pakistan.

Evidence on the origin of date palm is scanty and controversial. The objective of the PhD study of **Anisa Naeem** is to further explore and validate the existing claims and possible role of date diversity in Baluchistan. The study may reveal unreported date palm diversity and promote the historical date palm heritage prevailing in the region of Baluchistan.

The study of **Mr. Ali Raza** will be used to comprehend the date palm usage and processing patterns at the local level, its marketing scenario and potential at international level as well as its role in decent living of farmers in Sindh. One of the major objectives of his research is to recommend policy guidelines for agricultural extension services.

The research studies being conducted by **Ph.D. and M.Sc. students** will document the level of genetic diversity of date palm in different areas of Pakistan which can improve the ongoing breeding programs of this important crop of the region. The link between bio-chemical/ nutritional differences in dates and dates value chain is being explored by **Ghayoor Fatima**. The studies of **Ali Raza** will identify the constraints faced by industry regarding date value addition and better profitability.

Impact of the **MSc scholarships** awarded within the **RC Hensel/Munir**:

- ✓ The quality of research scholars in the field of renewable energy has increased manifold because of financial support and academic enhancement.
- ✓ The self-confidence of the post-graduate students was an outcome of the knowledge imparted to them during studies and conference.

²⁶ How did the activities performed contribute to the achievement of the Millennium* Development Goals (esp. MDG 1, target 2)? Were transfer instruments like e.g. publications or follow-up projects used to ensure sustainable results and attain public notice? Did the public/the media signal any interest in the activities performed (e.g. interest of government institutions in the Universities ICDD activities, publications, newspaper articles)?

- ✓ The research work in particular physical research was facilitated just because of the stipend provided to the students and good machines and research outputs were produced in the form of data analysis etc.

Impact of the Conference “Renewable Energy Technologies in Pakistan” Oct, 1-3 2013, University of Agriculture, Faisalabad (RC Hensel / Munir)

- ✓ General awareness to the international participants about the present status and future trends of renewable energy applications.
- ✓ New possibilities of utilizing alternate renewable energy resources keeping in view international energy scenario to reach workable solutions.
- ✓ The international participants offered their services for the new undergraduate program “Energy Systems Engineering” through video conferencing or as visiting teachers.
- ✓ A new undergraduate program was also appreciated and forwarded to the university authority for approval with the nomenclature “Energy Systems Engineering” and later approved from the academic council as well as “National Curriculum Review Committee (NCRC)” constituted by Higher Education Commission (HEC).

Research papers (published and forthcoming)

Haider, M. S., Khan, I. A., Naqvi, S. A., Jaskani, M. J., Khan, R. W., Nafees, M., Maryam and I. Pasha. Fruit developmental stages effects on biochemical attributes in date palm. Pak. J. Agri. Sci., Vol. 50(4), 577-583; 2013.

Haider, M. S., Khan, I. A., Jaskani, M. J., Naqvi, S. A., Khan, M.M. (forthcoming). Biochemical attributes of dates at three maturation stages. Emirates Journal of Food and Agriculture (Accepted, will be published in special issue on date palm 2014).

At least two more papers have been submitted to the journals during 2014

Three papers presented at the conference

Fatima, G., I. A. Khan, M. J. Jaskani and M. Hameed, 2013. Ecological significance of root anatomy in date palm (*Phoenix dactylifera* L.) cultivars from diverse origins. International conference on date palm: Present status and future prospects 2nd- 4th September 2013. Islamia university, Bahawalpur, Pakistan.

Naeem A., A. A. Khan, H.M. N. Cheema, I. A. Khan and A. Buerkert. DNA barcoding for species Identification in Palmae Family. International conference on datepalm: Present status and future prospects. 2nd- 4th September 2013. Islamia university, Bahawalpur, Pakistan.

Details on the conference "Renewable Energy Technologies in Pakistan" Oct, 1-3 2013, University of Agriculture, Faisalabad (RC Hensel / Munir)

The purpose of this international conference was to train students and researchers through teaching and innovative ideas of presenters in the field of "Renewable Energy" which included equipping them with technical knowledge and skills required for the design and development, operation and maintenance. Furthermore, focusing on indigenous renewable energy technologies to integrate academic learning with practice orientated industrial experience and internship for career planning.

OBJECTIVE OF THE INTERNATIONAL CONFERENCE

- Dissemination of knowledge to the stakeholders (students, researchers, end-users etc.) about renewable energy technologies viz. solar thermal, solar PV, Wind, biogas and biomass etc.
- Capacity building of students, trainers and entrepreneurs for appropriate selection and operation of efficient, economical and environment friendly renewable energy technologies acceptable to end-users Program Schedule

Conference Thematic Areas

- Innovative technologies in solar thermal heating and cooling
- Off-grid and on-grid solar PV systems for household and industrial applications (including solar pumping systems)
- Challenges/Impediments in the implementation of biogas technology in Pakistan
- Sustainable Power generation from agricultural wastes/biomass and bio-diesel
- Energy production potential in wind/hydel/geo-thermal and fuel cells.

On the first day of international conference on October 01, 2013 (Tuesday) the welcome address was given by Prof. Dr. Muhammad Iqbal, Dean Faculty of Agricultural Engineering & Technology, UAF. He highlighted the energy issues and prospectus of different energy systems in Pakistan. Then Prof. Dr. Oliver Hensel, ICDD Project Coordinator, Uni Kassel Germany presented a keynote address about the engineering principles of solar dryers and development of modern drying equipment for industrial applications. Afterwards, a technical presentation was given by Dr. Anjum Munir, Faculty of Agri. Engineering and Technology on the developments of solar-based technologies for the value addition of agricultural products under ICDD project and resented the success story of the project. Mr. Wolfgang Scheffler President, Simply Solar, Germany presented on solar thermal application for electrical power generation using Scheffler Technology. Honorable Guest of honor Ms. Ursula Saarbeck Director, DAAD, Islamabad appreciated the excellent work done under the ICDD projects in Pakistan. At the end, Honorable Chief Guest, Minister Energy, (Punjab) Pakistan Mr. Sher Ali Khan gave his concluding remarks and emphasized on adopting renewable energy technologies in Pakistan to meet the present challenges of energy crises in the country and to provide friendly environment to the future generations.

On the second day of international conference on October 02, 2013 (Wednesday), there were two technical sessions on Oral and Poster Presentations in which eminent speakers and students from different universities participated and presented their

research work on different renewable aspects and success stories during the sessions.



Poster session during the international conference

Last session was about the technical papers related to solar and other renewable energy technologies and many solar energy experts from the country and abroad participated in the conference.

On the 3rd day of international conference on October 03, 2013 (Thursday), there was a special session for students' presentations and visits of all the participants to the Renewable Energy technologies like Solar distillation system, solar tunnel dryer, solar roaster, solar autoclave, and biogas plants installed at UAF to explain how these technologies can be utilized to address the energy issue in the country.



Vice Chancellor briefing to Energy Secretary about the solar systems developed during ICDD Project

In addition to the above mentioned participants, Mr. Christian Schellert, Dr. Franz Roman (Germany), Dr. Akhtar Abbas (Australia) and Prof. Dr. Muhammad Afzal (Canada) also presented on different aspects of renewable energy technologies in the conference.



Shield presented to Ms. Ursula Saarbeck by Energy Secretary during international conference