

**IUCN
Pakistan**

**World Summit on Sustainable Development,
Johannesburg 2002 [RIO + 10]**

**Proceedings of the Workshop on
“Sustainable Energy for Cleaner Production”
WAPDA Engineering Academy, Faisalabad**

March 29, 2002

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**World Summit on Sustainable Development
Proceedings of the Workshop on
“Sustainable Energy for Cleaner Production”
Faisalabad, March 29th, 2002**

1. Introduction

The World Summit on Sustainable Development (WSSD) will be held in Johannesburg, South Africa from August 24 - September 4, 2002. The main purpose of this convention is to assess the main policies, which emerged from the United Nations Conference on Environment and Development (UNCED) in 1992. The Government of Pakistan, through the Ministry of Environment (MoE), is also gearing up to participate in WSSD in accordance with the guidelines provided by the Commission on Sustainable Development. Its efforts are mainly focused on preparation of Country assessment Report (CAR), which will be primarily based on the findings of the National Conservation Strategy (NCS) mid term review (MTR) and secondary research studies on Pakistan's progress on Rio Conventions. In order to support the WSSD preparatory process at MoE, IUCN has committed to hold public consultations in collaboration with the United Nations Development Program (UNDP). A total of ten workshops will take place. Each of these workshops will focus upon a specific theme related to the location of the workshop. The specific themes have emerged from the South Asia and Asia Pacific regional roundtables.

Seven of these workshops have already been conducted. The theme of discussion for the seventh workshop was based on the issue of energy usage and clean production, and was titled “Sustainable Energy for Clean Production.” The Workshop was held in Faisalabad and was organized by IUCN in collaboration with the WAPDA Engineering Academy. Financial collaboration was provided by UNDP and DFID.

1.1 Objectives of the WSSD Consultations

The main objectives for holding the consultative workshops are:

- To bring together key stakeholders from government, civil society and private sector on one platform to discuss key issues with regards to sustainable development in Pakistan;
- To contribute towards preparation of Pakistan's CAR;
- To carve out a prospectus for updating the NCS from the overall consultation synthesis report.

This report presents the proceedings of the fourth workshop and major ideas emerging from the discussion.

2. Participants

The Workshop on Sustainable Energy for Clean Production was attended by representatives from government departments including the Environment Protection Agency. Participants also included representatives from the media and civil society.

The List of Participants is attached as Annex I.

3. Summary of the Workshop Proceedings

The workshop began with welcome comments by Mr. Zafar Iqbal, the Deputy Director of WAPDA Engineering Academy. This was followed by a brief presentation by Mr. Gul Najam Jamy, the Head of Policy and Constituency Development, IUCNP Country Office in Karachi on the historical background of WSSD and what it means for Pakistan. Next was the main keynote presentation made by Mr. K. M. Zubair, Chief, National Energy Conservation Centre (ENERCON), which is housed in the Ministry of Environment, Local Government and Rural Development. To conclude the Workshop, Mr. Khalid

Javed, the Principal of the WAPDA Engineering Academy provided his remarks on the subject. The detailed agenda of the workshop is attached as Annex II.

3.1 Main Presentation

Mr. Zubair began his speech by discussing the issues of sustainable energy and clean production. In particular he addressed the views held in some developing countries that the environmental concerns are an issue of foremost concern to the developed world and are of lesser concern to the developing world. He provided examples from the Quran citing injunctions that waste should be avoided. Mr. Zubair added that the international conventions/protocols provide new opportunities to conserve natural capital. This has the potential to allow cost savings to the developing world, which is in particular need of such measures given the limitations it faces with regards to the utilisation of natural resources.

With regards to sustainability issues, Mr. Zubair noted that in Pakistan fossil fuel resources are limited. Moreover, oil reserves in Pakistan would be fully depleted in two years if used to meet all local requirements. And forty percent of proven gas reserves have already been used. Using these hard facts, he emphasised that Pakistan should be alert to the issues of sustainability and work to conserve existing resources, while looking for more economic and renewable alternatives.

The Keynote Speaker also addressed another common misconception that development comes at the cost of pollution. He noted that the challenge that most developing countries, including Pakistan face is to ensure that growing demand for energy does not prove hazardous to environment concerns. Long-term security of habitat requires that this compromise not be made.

Turning to the issue of Clean Production, Mr. Zubair noted that pollution was a form of waste in the processing cycle. It is essentially an imbalance between inputs and outputs. Seen in this perspective, cleaning the environment and treating waste are not the costs of avoiding pollution, rather these result in more economic usage of existing resources. Therefore clean production works in tandem with increased productivity and eco-friendly goods and services create new market opportunities.

Mr. Zubair cited the example of Japan as a leader in energy conservation measures. Pakistan's own potential saving from energy conservation lie in the area of US \$850 million a year. With these kinds of savings, new energy conservation legislation with attached implementation mechanisms is needed. There is an opportunity for Pakistan to take advantage of the emerging mechanisms on climate control to aid its own economic and environmental health. A lack of effort on establishing baselines by Pakistan on new instruments like CDM is a key reason for its being left out of the mainstream. In this regard, Mr. Zubair noted that the National Conservation Centre, in particular can fit into the role of a focal agency in Pakistan.

See Annex III for the presentation made by Mr. K. M. Zubair.

Following the Keynote Speaker's address on Sustainable Energy for Clean Production, detailed discussion took place among the participants.

3.2 Scope of Discussion

Mr. Gul Najam Jamy Head of Policy and Constituency Development, IUCNP moderated the discussion. To commence the debate, he requested the forum to centre their discussion on the three questions listed below.

- i. That were the major achievements for Pakistan with regard to the incorporation of environmental conservation concerns and stakes in sustainable development projects, over the past decade?
- ii. What were the past constraints and/or failures?
- iii. What could be done in the future to minimise such failures and promote the awareness and inadequate consideration of environmental issues in sustainable development interventions in Pakistan?

Likewise, this workshop account has also been split into the above three discussion areas identified by the facilitator.

3.2.1 Achievements of the Past

- Discussions on the achievements to date of the Pakistan government started with a recognition that the framing of the National Environment Quality Standards, through a comprehensive participatory process was a challenging task which was completed successfully.
- Other environment friendly initiatives of the government include the introduction of natural gas in the transport sector. According to one of the participants, Pakistan now ranks three in the world after Argentina and Italy in natural gas use. It was acknowledged that switching from liquid fuel to gas may not be the end in itself, but it is a step towards the right direction – as it is low in carbon and produces less emissions as compared to liquid fuels. Moreover if hydrogen fuel is developed in the future, we will already be on the track towards environment friendly initiatives in fuel usage.
- The Pakistan government has improved fuel specifications by moving from low lead to no lead resulting in reduced sulphur emissions. Fuel efficiency in road transport has also created awareness and has raised information available on the use of environment friendly fuels. Today the energy mix of Pakistan, which is more than 40% based on natural gas, is highly environment friendly as compared to neighboring countries such as India which has 65% of energy resources coming from coal. Therefore, it was noted that Pakistan with its meagre resources particularly with regards to its institutional capacity, has managed to pursue fuel conservation practices and environment friendly policies.
- Regarding the renewable energy resources, the pooling of all three departments into the Pakistan Council for Renewable energy technologies according to the participants, is a focussed step towards ensuring that a body is responsible and accountable for taking all necessary steps in this direction.
- The number of NGOs which have been set up in the last decade and the parties who sponsored the setting up of the Environment Protection Agency and the National Conservation Strategy are all indications of strong progress in Pakistan towards becoming more environmentally conscious global citizens.
- Fining people who pollute is a step towards allocating the burden of cleaning the environment to those who are responsible for polluting it. In this area, a representative from EPA Punjab said that 14 offices of EPA have been set up in Punjab. These offices, with the co-operation of the local area traffic police are vigilant in fining the vehicles on the road who are contributing to air pollution. Also, the EPA has now been promoting the setting up of CN stations by making the issuance of CN stations more easier, which was not the case earlier. Other attempts by the government of Punjab include the plan to phase out two stove vehicles. Even the campaign for free tune up by ENERCON has served to raise awareness.
- Participants noted that international obligations such as ICS 14000, SA 8000 are also ensuring that steps towards cleaner production technologies are undertaken. Even importers from other countries insist that energy conservation be followed. They said that implementation of certain WTO obligations in 2004 and 2005 will require even more stringent steps. These include certification of the treatments in place at the manufacturing center.
- Finally another important step to be noted is the setting up of the National Cleaner Production Center. It is being set up by UNDP and other partners include APTMA and EPA etc.

3.2.2. Lessons Learnt From the Past

- One of the main statements made again past constraints/failures was the implementation of non-feasible mechanisms to control energy wastage. In particular examples of *Ripple Control* and *Voltage Regulators* were given as attempts made by government agencies without the

adequate background research. According to the participants these steps proved to be ill suited to a country where primary concerns of most people remain focused on fulfilling basic needs such as food or clothing.

- A major outcome of discussion in the area of lessons learnt from the past was a need for the government to ensure that all major policy measures are discussed openly in public and not behind closed doors.
- As the discussion progressed, the participants also came to the conclusion that consensus building has to allow room for dissenters. A big concern raised was that it was not viable to shoot down ideas if a few were against while the majority was for the decision. A need to raise consciousness that unanimity is not always possible was also acknowledged. In the end, the debate format where pros and cons are discussed was seen as a way to go for future decision making.
- The participants also debated reasons why WAPDA had chosen to follow thermal and not nuclear energy resources in the past. Some comments were that the capital investments were too high and it was the economic factor which eventually lead to non-development of nuclear power for wide scale use. Other factors were the limitation of operation resources and concerns about the learning curve issues in the field of nuclear energy.

3.2.3. The Way Ahead

- A participant listed the many natural resources with which Pakistan has been blessed and said that the Pakistan government has to look into the extraction of existing natural resources. According to the participant, Sindh has gold deposits especially in areas such as Thar. Feasibility studies should be prepared with a view that they may not be consigned to the policy domain as has been the case to date of all such proposals, rather a road map to implementation should also be prepared.
- Many natural resources remain unexplored even as others are being depleted. Examples were given of the lakes in Sindh and also of Tarbela Dam which is one of the greatest urban dams in the world. Participants mentioned that the Tarbela Dam's utilization can be increased further by giving it artificial height. They wanted such measures need to be investigated by the government even as it looks for alternative resources for increasing energy.
- Lakes can be used as an option for hydal power. Sindh lakes include Mancherji Lake in Dadu district and the Kinjhar in Thatta district. This is a particularly viable option as up to 25 to 30 megawatts of local requirement were said to be readily served through these sources. Government policies should be expedited in this regard.
- A final issue which was discussed was if there should be an energy conservation law in the future. This prompted one of the participants to give the example of Kasur. Kasur was said to have an energy conservation law however its implementation was poor, as so far only one tannery in that area had taken steps to set up a plant to treat the waste emitted from their plant. On the other hand, this one example was also an indication that a law if implemented can have beneficial steps. Therefore, the issue was left on the question of implementation and enforcement of law.

4. Conclusion

Mr. Khalid Javed Chief Engineer and Principal of the WAPDA Engineering Academy gave a concluding statement. (Please See Annex IV)

Mr. Javed thanked the participants for their contribution and hoped that the debate held at the WAPDA Engineering Academy would feed the global and regional debate on WSSD themes. He commented that the workshop had provided an opportunity to all present to think about more sustainable ways of operating the energy sector in Pakistan through the active involvement of all stakeholders, particularly the private sector.

The Principal said that WAPDA is striving to reduce line losses and increase efficiency in its generation, transmission and distribution systems. He noted that the private sector will benefit most by adopting cleaner production systems. Further, he said that the availability of international funds, such as the CDM, would provide the much needed support to the private sector to adopt new ways of sustainable production.

Mr. Javed thanked all participants for attending the workshop and making the discussion both interesting and constructive. He added that WAPDA would continue its efforts towards training its students in the issues related to sustainability of energy resources and the importance of using environmentally sound and clean production technologies.

List of Participants
WSSD Public Consultations
Sustainable Energy for Clean Production
March 29th, 2002 Faisalabad

S. No.	Name	Designation	Organisation
1	Masood Rabbani	Research Officer	Research and Test Lab
2	Saeed Akhtar Rana	SE (Retd)	WAPDA
3	Nazar Abbas	XEN	Central Ware House
4	Ihsanullah Bhutto	Jr. Engineer	WAPDA Engineering Academy
5	Ghulam Mohammad	Sr. Engineer	WAPDA Engineering Academy
6	Muhammad Jamil	Sr. Engineer	WAPDA Engineering Academy
7	Shahzad Bashir	Sr. Engineer	WAPDA Engineering Academy
8	Muhammad Shoaib Rashid	Sr. Engineer	WAPDA Engineering Academy
9	Muhammad Shahid Hassan	Deputy Director	EPA
10	Khalid Mehmood	Inspector	EPA
11	Dr. Muhammad Pervaiz	Senior Scientific Officer	HDIP
12	Mohammad Siddiqui Khattak	SDO	Assistant Engineer TSG Lahore
13	Syed Nishat Haider Naqvi	Shift Engineer	RE Jamshoro Hyderabad
14	Mazhar Ali Shaikh	RE,	RE Rohri
15	Eng. Mohammad Iqbal Shah	AE, Assistant Director	
16	Pervaiz Afzal	AD (Planning)	HESCO Hyderabad
17	Javed Ahmad Khan	Dy Director (PR)	FESCO
18	Sajid Aleem	Station Incharge FSD	Associated Press of Pakistan
19	Abdul Wahid Khan	PA to CE/P	WAPDA Engineering Academy
20	M. Naseem	XEN	FESCO WAPDA
21	Sharafat Ali Sial	Dy. Director	WAPDA Engineering Academy
22	Jumana Poonawala	Consultant	IUCNP
23	Mohammad Ajmal	Director, (T&D)	WAPDA Engineering Academy
24	Zafar Iqbal	Dy. Director	WAPDA Engineering Academy
25	Abdul Ghaffar Sheikh	Director Training	WAPDA Engineering Academy
26	Muhammad Iqbal	XEN	TRW FESCO
27	Engineer, Karim ullah Sheikh	Sr. Engineer	WAPDA Engineering Academy
28	Engineer, Ashiq Hussain Bhatti	Director	GSO, FESCO / WAPDA
29	Engineer, Muhammad Iqbal	SDO	GEPC Chawinda, GFPCO / WAPDA
30	Eng. Javed Iqbal Khan	SDO	GEPC Chawinda, IESCO / WAPDA
31	Eng. Shabir Ahmad	SDO	PESCO, WAPDA
32	Eng. Nasir Rasheed	SDO	MEPCO, WAPDA
33	Eng. Waryam Ali Mohsin	Vice Principal	Director (Water), WEA
34	Eng. Rifaqat Ali Shah	Jr. Engineer	WAPDA Engineering Academy
35	Eng. Khalid Nazir	Asst. Director	WAPDA Engineering Academy
36	Main Mahmood Yasin	Sr. Engineer	WAPDA Engineering Academy
37	Eng. Iftikhar Ahmed	Jr. Engineer	WAPDA Engineering Academy
38	Eng. Waheed Ahmad	Jr. Engineer	WAPDA Engineering Academy
39	Eng. Abdur Rehman	Jr. Engineer	WAPDA Engineering Academy
40	Iftikhar Anjum	Astt. Director)	Design (NTDC
41	Ghulam Yaseen	SDO	FESCO
42	Eng. Tofiq Akbar Azad	Company Secretary	FESCO

43	Abdul Nasir	SDO	TESCO, Islamabad
44	Fazal ur Rehman	SDO	OESCO, Quetta
45	Ehsan Ullah Khan	SDO	Bhakkar Engineer FESCO
46	Shakir Ali	Dy Director (S)	
47	Masood Arian	RE (GTZ) GTZ	
48	Sadiq Ali Awan	AE, Sibbi	NTDC Sibbi
49	Mufadul	SDO	FESCO
50	Qutb Naser	SDO	FESCO

**WSSD Public Consultations
Sustainable Energy for Clean Production
March 29th, 2002, WAPDA Engineering Academy, Faisalabad**

Programme (09.30am – 01.50pm)

- 09:30 a.m. Registration
- 10:00 a.m. Recitation from the Holy Quran
- 10:05 a.m. Welcome and Introduction of Participants
- 10:15 a.m. Objectives of the Workshop
- 10:30 a.m. Presentation on Sustainable Energy for Clean Production
- 11:00 a.m. Tea Break
- 11:15 a.m. Moderated discussion on the theme
- 01:30 p.m. Wrap-up
- 01:45 p.m. Vote of Thanks
- 01:50 p.m. Closure and Lunch

Presentation by Mr. K. M. Zubair
“Sustainable Energy Development for
Cleaner Production”

- ◆What is sustainable energy
- ◆Why sustainable energy
- ◆What is clean production (CP)
- ◆Why CP
- ◆How? What can be Done?
- ◆What is UNFCCC/KP?
- ◆Major Green Events
- ◆Issue-Option Compendium

Objective

- ◆ Setting the focus for brainstorming on strategic issues that may lead to adoption of a set of recommendations on SED/CP.

Why Sustainable Energy

- ◆Sustainability of energy reserves.
- ◆Sustainability of natural capital.
- ◆Addressing climate change/global warming concerns.
- ◆Energy self-dependence.
- ◆Rationalization of tariff.
- ◆Better quality of life

What Is CP

- ◆ Application of appropriate techniques, technologies and management systems to produce environmentally compatible goods and services.
- ◆ Strengthening organizations for managing activities so as to minimize burden that our products and operations impose on the environment.
- ◆ Strategy for removing unbalance between system inputs and outputs .
- ◆ increased efficiency.
- ◆ Increased productivity.
- ◆ Better Profitability.
- ◆ Better financial and economic returns.
- ◆ Better quality of life.
- ◆ Creates opportunity for business promotion.
- ◆ Competitive edge.

How - What Can be Done

- ◆Rational use of Energy/and use energy efficiency improvement/EC.
- ◆ELR & DSM.
- ◆Promotion of Renewable Resources of Energy.
- ◆Exploring new sources of Energy and infrastructure improvement.

Al-Quran

- ◆“And waste not by excess-for Allah loveth not the wasters”: Al-Araf (31)
- ◆“And waste not by excess-for the wasters certainly are Satan’s brethern”: Bani-Isrel (27)

Rational Use of Energy

- ◆Signifies conservation and efficient use of energy.

- ◆No rationing or curtailing the use of energy.
- ◆signifies same level of goods and services with less energy.
- ◆Short gestati on.
- ◆Makes simple financial/economic sense.
- ◆Available at a fraction of cost of new energy.
- ◆ Least cost supply option as one unit of energy saved is one unit of energy saved is on unit produced.
- ◆Reduced dependence on imports and FE savings.
- ◆Cleanest form of energy.

EC Potential in Pakistan

◆Industry	30%
◆Transport	20%
◆Agriculture	20%
◆Buildings	30%
◆Average	25%

Impact of EC on Environment

For 1,000 Tons of Fuel Saved

Global Impact:

Reduction in Emission of Greenhouse Gases:

Carbon Dioxide	3,110 Tons
Nitrous Oxides (NOx)	46 Tons
Hydrocarbons	67 Tons

Local Impact:

Improvement in Ambient Air Quality Due to Reduction in the Emission of:

Sulphur Dioxide	17 Tons
Suspended Particles	63 Tons
Carbon Monoxide	795 Tons
Lead	Significant

Why EC Law

- ◆Japan 50 years
- ◆USA 40 years
- ◆UK 40 years
- ◆S.Korea 90 years
- ◆Philippines 15 years
- ◆Thailand 12 years

EC Provisions in Proposed Law

- ◆Energy Reporting
- ◆Equipment Designation
- ◆Energy Audits
- ◆Initial Energy use assessment
- ◆Energy Managers
- ◆Labeling
- ◆Advertising
- ◆Testing
- ◆Standards
- ◆Procurements

Why Renewable Energy

- ◆Microhydel: Low-cost supply option with large potential.

-
- ◆ Wind: Can be harnessed after proper mapping.
 - ◆ Bio-mass: A viable option, not exploited to potential.
 - ◆ Solar: Needs continuous research and development

What is UNFCCC

- ◆ Growing concern of global warming led to the signing of United Nations framework convention on climate control. UNFCCC in May 1992.
- ◆ Calls for participation by advance countries for stabilization of GHG emission that result additional warming of earth's atmosphere and may adversely affect natural Eco systems and human kind.

What is Kyoto Protocol

- ◆ Developed in December 1997 as a follow-up can UNFCCC to seek specific commitments by National for protecting the climate change.
- ◆ Recommends specific targets for emission reduction and excitation by the industrialized countries.
- ◆ Proposed activities include enhancing energy efficiency, protection and of sinks, sustainable agriculture, reduction of GHG calls for from transport sector.
- ◆ National Accounting system of GHG's.
- ◆ Introduces new concept/strategies for GHG reduction like emission trading, CDM's and AJI.

Major Green Events

- ◆ 1983: *Pakistan Environmental Protection Ordinance (PEPO) promulgated.*
- ◆ 1988-89: *Federal Provincial Environmental Protection Agencies (EPA's). (established).*
- ◆ 1992: *Pakistan National Conservation Strategy (NCS) notified.*
- ◆ 1993: *National Environmental Quality Standards (NEQs) notified.*
- ◆ 1996: *Environmental Standard Committee formed.*
- ◆ 1997: *Pakistan Environment Protection Act 1997, promulgated*
- ◆ 1999: *Revised NEQS approved.*
- ◆ 2000: *Pilot self-monitoring and reporting program for industry initiated.*
- ◆ 2001: *National Environment Action Plan Launched.*

Economic Costs for Identified Projects

Issue and Option Compendium

Attitudinal barriers

Can be removed by awareness, information dissemination, outreach, training, demonstration project and diffusion of best practices.

Lack of integration with profitability

Clean production be linked with profitability, social and economic development, livelihood opportunities; and better quality of life. CP be portrayed as pro-poor development.

Weak or No Baselines

Quantify potential; identify markets and prospective buyers of emission reduction for CDM/AJI; create baselines on methodological issues, benchmarks, verification and certification procedures, project cycles, contractual arrangements, conflict of interest and their resolution, identify and use all cross-cutting approaches to benefit from international clean development mechanisms.

Weak institutional arrangements resulting in slow enforcement:

To achieve effective implementation, all strategic frameworks must address capacity building issues related to governance; interagency coordination, integration of sectoral programs with CP; and resource mobilization. Sustainable funding mechanisms should be quickly in place to promote and implement CP programs

- ◆ **Absence of Energy conservation legislation:**

Introduction of legislation on rational use of energy as a least cost energy supply resource and as an instrument to abate GHG emissions.

- ◆ **Lack of focussed climate control /Clean Energy pursuits**

Let one agency be declared focal point to coordinate all national efforts on climate control and clean energy.

- ◆ **Inadequate Valuation of Resources:**

The magnitude of social cost of environment degradation is enough to effect much of the annual economic growth. With proper valuation of resources CP efforts can grow much faster.

- ◆ **Lack of monitoring and evaluation:**

A clear enough road map to achieve targets; monitoring system geared towards evaluating tangible changes in the behaviour of institutions and environmental quality on ground; a system of accountability of outcomes using a multi-stakeholder process.

Concluding Remarks by Chief Guest, Mr. Khalid Javed
Concluding Remarks of
Mr. Khalid Javed, Principal / Chief Engineer
WAPDA Engineering Academy, Faisalabad

Mr. Gul Najam Jamy and Ms Jumana of IUCN Pakistan, Mr. K.M. Zubair of ENERCON, dear colleagues, friends from the private sector and dear participants. Thank you all for being with us today for an excellent consultation on a topic of great national importance.

We have had a very informative presentation and a lively debate. The level of input provided by all of you is much appreciated and I hope that today's deliberations would not only feed into the global and regional debate around key WSSD themes but provide us all an opportunity to think about more sustainable ways of operating the energy sector in Pakistan through the active involvement of all stakeholders particularly the private sector.

As we heard today, Pakistan faces several challenges in the energy sector. WAPDA, on its part, is playing a crucial role in providing energy to the country including the far-flung areas of Pakistan. We are striving to reduce line losses and increase efficiency within our generation, transmission and distribution systems. This requires our joint efforts. One interesting aspect of today's discussion was the emerging field of cleaner production. The private sector will benefit most by adopting cleaner production systems. The availability of international funds, such as the CDM, should provide the much needed support to our private sector to adopt to new ways of sustainable production. On its part, the WAPDA Engineering Academy would make efforts to introduce its faculty and participants of various courses to the ideas discussed today.

The diversity and level of participants gathered here today is a proof that we are all moving towards building new alliances and hope that we sustain this momentum. In the end, I would like to thank IUCN Pakistan for joining hands with us to organize this consultation in Faisalabad, to Mr. K.M. Zubair for his excellent presentation and to all WAPDA colleagues and other participants for taking out time to make this a successful event.

Thank you and Allah Hafiz.