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From the editor

Dear APWSS colleagues,

We start this newsletter with a message from our new president, Dr NT Yaduraju and a report on 24th Asian Pacific Weed Science conference, held in Bandung, Indonesia 22-25 October. This is followed by minutes of APWSS Exco meeting and different country reports and weed news items. Further there is call for nominations for 'Champions' to lead Focus Group proposed in Exco meeting of APWSS. Many thanks to all contributors.

Enjoy the read!

Asad Shabbir

Message from the APWSS President, Dr N T Yaduraju

Greetings to all!

I am happy to assume the office of the President of APWSS for the period 2014-15. I would like to thank all the Executive Committee members for having reposed confidence in me and electing me as President of APWSS.



On behalf of the Executive Committee, I would like to express my sincere gratitude to the outgoing Executive

for their excellent efforts in successful implementation of activities and programs of the Society. Particular mention may be made of Dr Steve Adkins, the outgoing President, for his untiring efforts in making APWSS a vibrant and a strong body.

Asia pacific region is the home for the largest number of poor and undernourished people in the world. The region has to produce 70% more food by 2020 to feed the growing population. Weed scientists in the region have a big role to play in enhancing agricultural productivity by developing technologies which are effective, economical and sustainable.

APWSS is providing a platform for the weed scientists of the region to come together, share knowledge, develop networks and foster collaborations for solving common problems. The region has wealth of innovative technology and good practices- along with an abundance of natural and human resources. I firmly believe that everyone has something new to learn and contribute to the benefit of others.

Strength and stability are important for any organization to perform its functions/role. The new executive is committed to make APWSS financially strong. New ideas have been floated to generate resources so that the Society can serve the members better with new activities and programs. Life membership, Affiliation membership and Annual membership for new entrants are some of the efforts towards that. Focus Groups are being formed so that members with common interest can interact closely. Five such groups are being formed to start with. I invite members to participate in them actively.

The 25th APWSS conference is being held in India from 13-16 Oct, 2015. The host city Hyderabad in central India is getting ready to welcome you. We will get back to you with details very soon. Meanwhile, feel free to give your ideas and suggestions to make the Silver Jubilee edition of the conference and the Golden Jubilee year of founding of APWSS a great event.

With Best Wishes

N T Yaduraju

24th ASIAN PACIFIC WEED SCIENCE SOCIETY CONFERENCE, BANDUNG, INDONESIA 2013

Asad Shabbir, University of the Punjab, Lahore.
Steve Adkins, Professor in Plant Physiology,
SAFS, CPS, QAAFI, University of Queensland

Weed scientists and practitioners from all over the Asia-Pacific region and from many other parts of the world met in Padjadjaran University Convention Hall Bandung Indonesia from October 22 to 25, 2013 to attend the 24rd Asian Pacific Weed Science Conference. The Asian-Pacific Weed Science Society was founded in 1967 and since then has held its biennial meetings in different parts of the Asian-Pacific region. These meetings provide a venue for the exchange of research and educational ideas and for undertaking activities associated with the Society. The Bandung Conference provided a great opportunity for participants to broaden their view on the management of agricultural, aquatic and invasive environmental weeds. The delegates shared experiences on the biology, ecology and management of weeds across the Asia-Pacific region

Conference Activities

One hundred and eighty two (182) participants from 15 countries attended the Conference. A total of 155 papers were presented including 105 oral presentations and around 50 poster papers. There were 18 Technical Sessions with oral presentations delivered in four parallel sessions. The Proceedings of the Conference have been published on the APWSS web site (www.apwss.org). Editors of the Proceedings were Dr's Baki Bakar, Denny Kurniadie and Soekisman Tjitrosoedirdjo.

The keynote address was given by Professor Steve Adkins who spoke on 'Some present problems and future approaches to weed management in the Asian-Pacific region: supporting food and environment security by 2020'. Plenary papers were given by the following people: • Professor Dr. Yoshiharu Fuji - 'Isolation and identification of allelochemicals from traditional crops and utilization for agriculture'. • Professor Albert Fisher – 'Management of multiple-herbicide resistant *Echinochloa* spp. in rice'. •

Professor Dr. Kwang Ho Park - 'Weed control potentials using robotic implements'.

- Dr. Trevor James - 'Can we successfully manage weeds by manipulating the weed seed bank?'
- Dr. A.R. Sharma - 'Weed management under conservation agriculture'.
- Dr. Soekisman - 'Weed risk assessment: a review'.
- Dr. Aurora Baltazar - 'Challenges and problems in managing weeds in rice: present and future solutions'.
- Professor Dr. Hisashi Kato Noguchi - 'Momilactone plays a crucial role in rice allelopathy'.
- Dr. N T Yaduraju - 'Implications of weeds and weed management on food security and safety in the Asia-Pacific region'.

Day 1 Tuesday, 22 October 2013

The 24th APWSS Conference was opened on 22nd October by Dr. Denny Kurniadie, General Secretary of the APWSS, Professor Stephen Adkins, President of APWSS and by a representative from the Ministry of Agriculture, Indonesia. The opening was followed by a keynote presentation by Professor Steve Adkins and then two invited papers given by Professor Albert Fisher and Professor Kato Noguchi. Following the plenary session, there were eight concurrent sessions where a total of 42 oral talks were presented. The Conference Dinner was held on the evening of Day 1, followed by a cultural show where various local artists performed. At the Conference Dinner, Dr. Muhammad Soerjani, a senior scientist who has spent many years promoting weed science in the Asian-Pacific region was presented with an award and made a Fellow of Asian Pacific Weed Science Society. Dr Soerjani has contributed considerably in the promotion of the awareness of weeds and influencing policy makers on all matters to do with weeds over a long career spanning more than 40 years

Day 2 Wednesday, 23 October 2013

In the plenary session of day 2 there were three invited speakers, Dr. Kwang Ho Park, Dr. NT Yaduraju and Dr AR Sharma, followed by two concurrent sessions where a total of 32 oral presentations were made. The APWSS Executive held its meeting in the main ballroom at 5.30pm and the new society office bearers were elected for the period 2013-2015. Dr N.T. Yaduraju was elected as President; Dr Hiroshi

Matsumoto Vice-President; Dr Do-Soon Kim, Secretary; Dr Michael Renton, Treasurer; Dr Asad Shabbir, Newsletter Editor and Web Master; and Dr Steve Adkins took up the position of Past President. Dr Yadujaru then presented the plan for the 25th APWSS Conference, which will be held in Hyderabad, India on

13-16 October, 2015. The meeting also accepted a bid from Japan to host the 26th APWSS Conference in 2017 presented by Hiroshi Matsumoto, the President of Japanese Weed Science Society. The conference will be held in Kyoto, but as yet the date has not been set.



Above: Group photo of the participants of 24th APWSS conference held at Bandung Indonesia.

Above: Some glimpses of the opening ceremony, invited talks and social events taking place at the conference dinner.



Dr. Muhammad Soerjani, awardee of Fellow of APWSS is introduced with delegates Right: Conference organisers in conference local dress



A glimpse of a technical session, chaired by Dr. Steve Walker.

Day 3 Thursday, 24 October 2013 - Field Excursions

The third day of the conference was devoted to interactive field excursions focusing on weed issues in two different ecosystems in Bandung.

Field Trip 1 : Tangkuban Perahu and Syngenta Trial

Field Trip 2 : Kawah Putih Ciwidey

Day 4 Friday, 25 October 2013

There four plenary speakers on Day 4, Dr. Aurora M. Baltazar, Dr. Trevor James, Dr. Soekisman Tjitrosoedirdjo and Prof. Dr.Y. Fujii. Following the Plenary session there was one concurrent session where 14 papers were presented. The APWSS general meeting was held at 5 pm after this session concluded.

Closing Session

After four days of successful deliberations, the 24rd APWSS was officially closed by the outgoing APWSS President Professor Steve Adkins who thanked the

organizers for conducting a successful Conference. At the closing ceremony awards were made to a Young and Deserving Scientist under the age of 45, who has made a significant contribution to weed science in the APWSS who presented an oral paper at the Conference. The award went to Dr Asad Shabbir, University of the Punjab, Pakistan.



Dr. Asad Shabbir receiving' APWSS Young and Deserving Scientist Award at the prize distribution ceremony on the closing session of the conference.



Some delegates with Prof. Steve Adkins, President APWSS.

MINUTES – 24th APWSS Executive Committee (ExCo) Meeting

7:00 – 9:00 pm, Padjadjaran University Convention Hall, Bandung



Attendees:

Steve Adkins	President, Australia
Denny Kurniadie	Vice President, Indonesia
Do-Soon Kim	General Secretary, Korea
Michael Renton	Treasurer, Australia
Asad Shabbir	Newsletter Editor, Pakistan
N. T. Yaduraju	President elect, Representative - India
Anis Rahman	Representative - New Zealand
Xiaoling Song	Representative - China
Buddhi Marambe	Representative - Sri Lanka
Chanya Maneechote	Representative - Thailand
Kee Woong Park	Representative – Korea
Yoshiharu Fujii	Representative - Japan
Baki Bakar	Representative - Malaysia
Aurora Baltazar	Representative - Philippines
Albert Fischer	Representative - USA
Steve Walker	CAWSS Representative - Australia
Soekisman Tjoitrosedirdjo	Representative - Indonesia
Hiroshi Matsumoto	Vice President elect - Japan

1. Welcome and Introductions

Steve Adkins welcomed the Members. Country Representatives introduced themselves briefly.

2. President's Report

Steve Adkins explained the Agenda. He also announced the following: (a) Election of APWSS Officers, (b) Future Conference Hosts, etc.

3. Vice President's Report on Current Conference

Denny Kurnidaie updated current conference. Total number of participants were 182 including 56 from Indonesia and 126 persons from outside Indonesia (India, 17, Sri Lanka, 10, Bangladesh, 1, Australia, 5, USA, 3, New Zealand, 5, Malaysia 10, Philippines 4, Thailand 7, Japan 29, Korea 14, China 5, Vietnam 2, Pakistan 3 and Taiwan 1). He explained the status of the proceeding, which was still in preparation.

4. Secretary's Report

Do-Soon Kim reported the ExCo meeting held during the International Weed Science Society Congress in Hangzhou in 2012, when discussion on the 24th APWSS and financial status were made and a new secretary was elected as former secretary Nimal Chandrasena was resigned.

5. Treasurer's Financial Report

The Treasurer Michael Renton presented the APWSS Treasurer's Report, summarized below:

ACCOUNT TYPE	AUD \$	c. US \$ (transfers done at 1 AUD\$ = 0.95 US\$)
Online Savings (Australian Dollars)	16,976.59	c. 16,128
Cheque Account (Australian Dollars)	344.28	c. 327
TOTALS		c. 16,455

He raised financial issue how to increase income for APWSS. He pointed that due to loss from the recent APWSS, financial plan to increase income should be discussed at this ExCo meeting. He suggested membership fee for annual and lifetime fees, and student and ordinary members. N. T. Yaduraju suggested each country society pay annual membership fee. It is concluded that Michael Renton

will make a financial plan and circulate with the ExCo members.

6. Newsletter Editor and Webmaster's Report

Asad Shabbir reported APWSS homepage (<http://apwss.org>) and newsletter published in 2012 and 2013 after the 23rd APWSS held in 2011. He also introduced the contents of the website.

7. Selection of Next Presidency and Host of next APWSS 2015 Conference

As the hosting of the 2015 Conference had already been selected at the ExCo meeting held at the 23rd APWSS conference in 2011, next president was selected this time. Following the APWSS convention as used to be except the 24th APWSS, next president was elected from those candidates nominated from the next hosting country. Steve Adkins introduced N.T. Yadujaru as a sole nominee from India, and the ExCo members elected him as a next president unanimously. N.T. Yadujaru presented the plan for the 25th APWSS, which will be held in Hyderabad, India on 13-16 October, 2015.

8. Election of New APWSS Officers

As current officers will finish their terms within 3 months after the 24th APWSS, new APWSS officers were elected. N.T. Yadujaru was newly elected as a new president, Hiroshi Matsumoto as a vice president, Do-Soon Kim as a general secretary, Michael Renton as a treasurer, and Asad Shabbir as a newsletter editor were elected for 2 years.

9. Selection of Host of the 2017 Conference and Next Vice Presidency

The bid from Japan to host the 26th APWSS Conference in 2017 was presented by Hiroshi Matsumoto, the president of Japanese Weed Science Society, and was accepted by the ExCo. This conference will be held in Kyoto, Japan. Following the convention, Hiroshi Matsumoto was elected as a vice president. He will serve as a vice president until the 25th APWSS and then automatically elected as a president for the 26th APWSS.

10. Open Discussion on matters related

(1) Publication of Proceeding

ExCo expressed many thanks for Baki Bakar's support for editing proceeding of the 24th APWSS conference as a chairperson of publication committee. Baki Bakar

expressed apology for not being able to provide proceeding in neither hardcopy nor a USB and informed that the proceeding would be uploaded in the 24th APWSS website (<http://apwss2013.com>) after all necessary editorial works finished.

Two issues raised by Baki Bakar (chairperson of publication committee of the 24th APWSS) and Kee Woong Park (representative of Korean Weed Science Society).

Baki Bakar raised the issue of APWSS conference proceeding – The publication of proceeding in the current format takes so long and requires tremendous works to edit all the papers on time and maintain a good standard. He suggested that the format of proceeding should be changed to resolve the problems he raised.

Kee Woong Park raised another issue of the 23rd APWSS conference proceeding as it was also published in the Pakistan Journal of Weed Science Research with no authors' consent. He expressed his concerns over a potential ethical problem of redundant publication. He suggested that papers should be withdrawn from the Journal if individual authors request and asked to change the format of proceeding from current full paper to abstract only.

The ExCo members discussed and reached the following conclusion.

From the 25th APWSS conference, abstracts will only be published in the proceeding. However, full paper publication is optional, so can be published if author requests. In the case of invited talks and selected papers, APWSS conference organizing committee will arrange to publish these papers in the Weed Biology and Management in a special issue. This needs to be further discussed with WBM editorial board and the Weed Science Society of Japan.

In the case of the 23rd APWSS papers published in the Pakistan Journal of Weed Science Research, paper shall be withdrawn if author requests officially in a written letter with all authors' signatures.

(2) Focus Group

Steve Adkins explained the necessity of focus group, a similar group to ERWS' working group. He introduced the activity of the International Parthenium Weed Network (IPaWN). Several important topics for focus group were raised by the ExCo members. Dr. Deirdre Lemerle agreed to take charge of collecting ideas from

ExCo members and making a brief summary to arrange focus groups in APWSS.

11. Closing

Several Ex-Co members expressed thanks to the 24th APWSS organizing committee and the serving office-bearers for their hard works.

Do-Soon Kim
General Secretary

Announcement of APWSS FOCUS GROUPS and Seeking group leaders “Champions” to lead the FOCUS GROUPS

Dear APWSS members,

It is our great pleasure to announce that APWSS has settled on **5 initial Focus Groups** as follows,

1. Herbicide Resistance Management
2. Invasive Plants
3. Biological Control
4. Weed Risk Assessment
5. Capacity Building (Education and Training)

The aim of the Focus Groups is to increase communication and collaboration between weed scientists in APWSS who work within that subject area. More specifically to:

1. increase networking and international research collaboration
2. provide peer support
3. create new ideas and innovation
4. increase the quality and quantity of research
5. facilitate staff and student exchanges
6. integrate regional, national and international networks in the Focus areas
7. organise sessions and run workshops at future APWSS conferences

Activities of the groups could include: writing (multi-author and country) review scoping or situation scientific review papers identifying current situation and RD&E needs; organisation of specialist workshops or conferences; undertaking international collaborative research projects; identifying and developing funding sources (public and private sector); organise tours and

visits; training and education activities; and other capacity building activities.

We need to receive **nominations of focus group ‘Champions’** to lead each Group. This position may be a two-year tenure once the Groups are formed during the next 12 months. So, please circulate this announcement in your society and recommend candidates who may be interested in leading each group. Please also let us know who may be interested in participating in Focus Groups.

Professor Deirdre Lemerle, Development & Coordination Officer – Focus Groups APWSS, has made a super job for us to set up these 5 Focus Groups last several months since the 24th APWSS. We really appreciate her excellent contribution to our society.

We also welcome your idea on how to run and manage these Focus Groups.

Concerning Focus Groups, please email Dr. Deirdre Lemerle, our Focus Group Coordinator. Her email address is dlemerle@csu.edu.au.

We are looking forward to hearing from you.

Sincerely yours,

APWSS President
(nyaduraju@gmail.com)
Focus Group Coordinator
(dlemerle@csu.edu.au)
General Secretary
(dosoontkim@snu.ac.kr)

Dr. Nanjapur Yaduraju
Dr. Deirdre Lemerle
Dr. Do-Soon Kim

Weed Science Association of Argentina



Dr Elba de la Fuente submitted this note on the recently formed ASACIM “Asociación Argentina de Ciencia de las Malezas” (Weed Science Association of Argentina). Dr Elba is the President of this Association

and has expressed his interest to interact and cooperate with APWSS and to promote scientific and cultural exchange among regional Weeds Societies. In response Dr N T Yaduraju, President APWSS, assured his full support to this newly established Association of Weed Science of Argentina.

Some of the objectives of this association are;

- i) to cooperate with similar organizations worldwide in order to coordinate and to promote scientific and cultural exchange and
- ii) to promote the communication and interaction among individuals and organizations interested in weed topics.

In the near future the Society will organize a Workshop and a Congress. The Workshop on Weeds will be held on August 6-8, 2014 in combination with the XXII Congress of AAPRESID “Asociación Argentina de Productores de Siembra Directa” (No Tillage Producers Association of Argentina), Rosario, Argentina. The 1st Argentinean Weed Congress and XXII Latin-American Weed Association Congress (ALAM) will be held on October 21-23, 2015, in Buenos Aires, Argentina. The Society is now working in the construction of a web page, whose link will be available soon.

Early life exposure to atrazine may cause enhanced disease incidence and mortality in frogs – a recent study

(News item from Dr. A.N. Rao, India)

Among vertebrate taxa, amphibians are the most threatened, and their decline has been linked to disease, most prominently those caused by *Batrachochytrium dendrobatidis* (Bd). Bd is a chytrid fungus and has been implicated in the decline of hundreds of amphibian species during the past four decades. Its distribution and its consequence for hosts are influenced by abiotic stresses. A study was conducted on frogs by Rohr (2013) with atrazine (the second most commonly used pesticide in the USA, and possibly the world) to assess early-life exposure on Bd-induced mortality. They found that that early-life, 6-day exposure to the herbicide atrazine increased frog mortality 46 days after atrazine exposure (post-metamorphosis), but only when frogs were challenged with the chytrid fungus. Early-life exposure to atrazine

altered growth and development, which resulted in exposure to chytrid at more susceptible developmental stages and sizes, and reduced tolerance of infection, elevating mortality risk at an equivalent fungal burden to frogs unexposed to atrazine. They concluded that reducing early-life exposure of amphibians to atrazine could reduce lasting increases in the risk of mortality from a disease associated with worldwide amphibian declines.

The study emphasizes the need to understand interactions between pesticides exposure and the organisms (including human beings) response to diseases to prevent diseases occurrence and thus manage diseases effectively. Such studies are needed in developing countries of Asia-Pacific region too as farmers are getting exposed to pesticides due to non-adoption of safety measures while spraying them.

Source: Rohr, J.R., Raffel, T.R., Halstead, N.T., McMahon, T.A., Johnson, S.A., Boughton, R.K. and Martin LB. 2013 Early-life exposure to a herbicide has enduring effects on pathogen induced mortality. *Proc R Soc B* 280: 20131502. <http://dx.doi.org/10.1098/rspb.2013.1502>

Herbicides do affect adjacent non-target plant species

(News item by Dr.A.N. Rao, India)

There has also been growing concerns about declining plant species richness, abundance and diversity both within crop fields and in surrounding habitats. Herbicide usage in agro-ecosystems is becoming normal method of weed management across the globe. Non-crop plants in habitats abutting crop fields can be at various phenological stages during herbicide spray. When plants are sprayed in crop fields and sub lethal doses of herbicides reach non-target plant species in adjacent habitats through drift, runoff and/or volatilisation, may influence non-target adjacent plant species. The seedlings and plant species at late vegetative and reproductive stages may be affected differently, and this is most likely influenced in turn by the type of herbicide applied.

A study was conducted in Canada, by Boutin and his colleagues Carleton University, Ottawa, Canada, with an objectives of quantifying the phenological stages of non-target plants in in-situ field situations during herbicides (Chlorimuron ethyl, Mecoprop, Glyphosate,

Metsulfuron methyl, Foramsulfuron + iodosulfuron , 2,4-D) spray and to compare plant susceptibility at different phenological stages. They observed delays in flowering and reduced seed production occurred widely on plants sprayed at the seedling stage or at later reproductive periods. The plants sprayed at reproductive stages were observed to exhibit more sensitivity than those sprayed as seedlings. Ecological risk assessments need to include reproductive endpoints.

In order to avoid risk to plant communities adjacent to crop fields, long term observations need to be taken in Asian Pacific region also on the impact of sprayed herbicides on non-target plant species in areas adjacent to crop fields. Such studies would enable to plan for preventive measures for avoiding any undesirable impact of herbicides to biodiversity, if any.

Source: C. Boutin., B. Strandberg., D. Carpenter., S.K. Mathiassen and P.J. Thomas. 2013. Herbicide impact on non-target plant reproduction: What are the toxicological and ecological implications?. Environmental Pollution 185 (2014) 295e306

The Weed Terminator Technology

(News item from Dr.A.N. Rao, India)

The University of Southern Queensland (Australia)'s (USQ) Institute for Agriculture and the Environment (IAgE) is building a new weed spray applicator nick-named as the "terminator". The terminator uses the guidance system and sprays only in the spots where the weeds are present. The spot spraying uses colour cameras, along with depth cameras and basically any plant that doesn't resemble the crop gets sprayed. National Centre for Research and Engineering in Agriculture's Senior Engineer Stephen Rees disclosed in a press note that the terminator got the potentiality to save up to 90% of the herbicide cost and terminator is being tested in Pyrethrum crops in Tasmania. Mr Rees informed that they were working on the project since 1990s and the Tasmanian project was one of a number the Institutes Automation, Robotics and Machine vision (ARM) group was working on as the same technology was being applied in Queensland in sugar cane crops to fight the weed guinea grass. ([https:// www.usq.edu.au/news-events/News/2013/09/ USQ-building-terminator-against-Tasmanian-pyrethrum](https://www.usq.edu.au/news-events/News/2013/09/USQ-building-terminator-against-Tasmanian-pyrethrum)). The project intends to reduce the herbicide use and thus the

herbicide resistance by targeting weeds rather than spraying indiscriminately.

It is time that other Asian Pacific countries also start working on such innovative projects, even though it is time consuming and costly process. But the gains from such projects would be several folds higher once such research becomes a practicality.

25th Asian Pacific Weed Science Society Conference is to be held in Hyderabad, India

24th Asian Pacific Weed Science Society (APWSS) Conference was held at Bandung, West Java, Indonesia during October 22-25, 2013. It was attended by participants from different countries of Asia Pacific region Viz. Australia, Bangladesh, China, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, New Zealand, South Korea, Sri Lanka and Thailand. Various aspects of weed management in Asia Pacific region were discussed and strategies for dealing with the weed problems encountered were chalked out.



During the General Body meeting of APWSS, it was announced that 25th APWSS conference will be held at Hyderabad during 13-16 October 2015. The flag of APWSS was given to Dr. N.T. Yaduraju (President, Indian Society of Weed Science and Incoming President, APWSS) by Dr. Steve Adkins (outgoing president, APWSS). Dr. Yaduraju with the co-authorship of Dr. A. N. Rao (Visiting Scientist, ICRISAT), presented an invitational paper on "Implications of weeds and weed management for food security and safety in the Asia Pacific region".

A Report on the International Parthenium Weed Network Meeting, October 23, 2013, Bandung Indonesia.

Asad Shabbir, University of the Punjab, Lahore Pakistan.

E-mail: asad.iags@pu.edu.pk

An International Parthenium Weed Network meeting was held at the Padjadjaran University Convention Hall Bandung Indonesia on the evening of the 23rd October 2013 during the 24rd Asian Pacific Weed Science Society (APWSS) Conference held from 22-25th October 2013. The Workshop was part of the activities of the International Parthenium Weed Network (IPaWN) and included brief country reports from a number of countries in the Asian-Pacific region that have parthenium weed and discussed a number of emerging parthenium weed issues. Another aim of the Workshop was to develop opportunities for international research collaboration. More than 30 delegates from 15 countries participated in the workshop.

Dr Steve Adkins, Chair, IPaWN, started off proceedings with a brief presentation summarizing what we know about the present distribution of parthenium weed around the globe highlighting the modes and speed of its spread, the kinds of habitats that are becoming infested, the impacts it is having upon crop and pasture production, and upon human and animal health. The presentation concluded with a summary of the research collaborations that are presently underway around the globe and concluded with an open invitation to others to join into the future activities.

Dr Asad Shabbir, IPaWN Network Coordinator gave a presentation on the objectives, past activities and future plans of IPaWN. He reported that since its initiation in 2009, IPaWN has been a rapidly expanding network facilitating the exchange of information about parthenium weed and its management. Dr Shabbir encouraged the participants to visit the webpage of the IPaWN network. This webpage is linked to the official website of APWSS (<http://apwss.org/apwss-ipawn.htm>). All past issues of the international Parthenium Weed Newsletter and identification kit are uploaded to this website. He further described the

recent (early) detection of parthenium weed in Malaysia as a success of the IPaWN network. The network was also working towards linking all regional working groups, institutions and other stakeholders with an interest in parthenium weed and its management into a common discussion group. To date there are more than 300 members from 30 countries. He also reported that IPaWN produces a 6-monthly International Parthenium Weed Newsletter and other useful publications which are posted online to all network members.

Dr A R Sharma, Director, Directorate Weed Science Research Jabalpur, India gave a brief overview of the parthenium weed problem in India. He outlined the ongoing research work on the awareness and management of parthenium weed in different States of India. He pointed out that further spread of the weed in the India may be reduced, through a national awareness, education and eradication campaign. He also discussed the increasing human and animal health problems that are occurring in India and a need for a coordinated effort to tackle this problem.

Dr Buddhi Marambi, Professor of Weed Science within the Faculty of Agriculture, at the University of Peradeniya, Sri Lanka gave a detailed report on the location of the parthenium weed infestations in his country and their effects upon the agriculture, forestry and horticulture of his country, as well as its effects upon human and animal health. Dr Buddhi supported the view that international collaborative efforts are needed to successfully manage this weed.

General Discussion and recommendations: After the conclusion of the country reports, a discussion took place involving all the participants with the following items generating the greatest discussion and in some cases, led to recommendations being made. The need for International Collaboration was seen as being critical for a better understanding and management of the weed.

1. Evaluation of the economic losses incurred due to the weed is seen as being important to help convince donor agencies at local and international scale of the weeds importance. It was suggested to include economists in future projects on impact assessment studies on parthenium weed.
2. Parthenium weed has been detected in Malaysia through the networking efforts of the IPaWN, it is now high time for Malaysian authorities to start a survey and surveillance to detect the further

- spread of this weed and eradication programs within their country.
- 3. The need to educate the public about the health problems caused by the weed particularly those living in remote and rural areas.
- 4. Encourage more people to join the IPaWN, contribute to the Newsletter and to visit the website (<http://apwss.org/apwss-ipawn.htm>).

A Report on International Conference on Alien Invasive Species Management in Nepal

Asad Shabbir
University of the Punjab Lahore, Pakistan

An International Conference on Alien Invasive Species Management was organized by National Trust for Nature Conservation (NTNC) at the Biodiversity Conservation Centre, Sauraha, Chitwan Nepal, from March 25 to 27, 2014. Eighty experts from seven countries: Australia, India, Nepal, Pakistan, South Africa, United Kingdom and United States of America, participated in this Conference. This Conference provided a venue for the exchange of research and educational ideas and provided a great opportunity for participants to broaden their view on the management of invasive alien weeds in southern Asia. The delegates shared their experiences on the biology, ecology and management of certain invasive weeds across the southern Asian regions with a focus on parthenium weed and mile-a-minute.

Overall aim of the conference was to bring all the relevant stakeholders involved in invasive species together to develop common understanding to deal with issues of invasive alien species.

Moreover, specific objectives of the conference were:

- To explore and review the status and effects of invasive species in Nepal

- To review the global researches and projects regarding invasive species control and management
- To strengthen coordination and cooperation among national and global stakeholders for development of national strategy and action plan on invasive species

The technical session covered four major thematic areas:

1. Invasive alien species and its effects on biodiversity
2. Invasive alien species and its effects on livelihoods
3. Institutional frameworks (Acts, policies, regulations) related to invasive species, and
4. Current practices and learning on invasive control and management

A total of 27 papers were presented covering various topics on policy making, biology, ecology and management of alien invasive species. There were six Technical Sessions where oral presentations were delivered in the main seminar room. In the inaugural session, a keynote address was given by Dr Sean Murphy, regional director CABI-UK who spoke on the problem and management possibilities of alien invasive species. This followed the welcome dinner. On day 2, 26th March 2014, there were four technical sessions with total 18 scientific papers presented. On day 3 there were two technical sessions and total of 9 papers presented. The technical session were followed by a jeep safari into the National Chitwan Park (CNP) where participants observed the wildlife and threats posed by alien invasive plants such as mile-a-minute (*Mikania micrantha*), parthenium weed (*Parthenium hysterophorus*) and Siam weed (*Chromolaena odorata*). After the field trip, there was a concluding session where the Chitwan Declaration was presented. At the end, a farewell dinner with live cultural dances and songs by the local ethnic community and an interesting video documentary prepared by Ms. Chanda Rana on invasive plants of Chitwan was shown.



Top The recent invasion of *Parthenium hysterophorus* into CNP has resulted in a sea of young parthenium weed plants emerging in the spring. Below left endangered one horned rhino coming to a pool in the park. Below right Elephant Safari to the park arranged by the conference organizers for international participants.

CHITWAN DECLARATION

We the participants of the above conference, from the countries of Australia, India, Nepal, Pakistan, South Africa, UK and USA

Recognize:

The detrimental impacts of invasive alien species (IAS) on ecology, environment and the socio-economic status of every country on the globe. IAS are the major drivers of biodiversity loss. As a result of increased trade and travel

in recent times, IAS have now spread and established on all continents. In short, IAS are running riot with dire consequences not only for agriculture, livestock productivity, forests, wetlands, and water scarcity but also for fisheries, wildlife conservation and human health.

IAS will have an increased impact in the future due to climate change and ever increasing land use changes by creation of new favourable habitats for IAS causing their rapid spread and south to north movement. The negative impact of *Mikania micrantha* (mile-a-minute weed) on the endangered greater one-horned rhinoceros in Nepal is a good example of how invasive alien plants affect the wildlife.

The situation is "now or never". Since the adverse impacts of IAS are multidimensional, coordinated efforts of all stakeholders concerned are necessary to prevent new incursions and manage those which have already invaded our ecosystems. In order to develop suitable strategies to manage IAS, it is necessary to know the identity of the alien species, its origin, pathways of introduction, habitats invaded and the potential natural enemies in the native ranges. Moreover, it is essential to raise awareness on IAS among all the stakeholders, policies need to be framed, capacity to deal with IAS is to be strengthened or developed and provisions in the quarantine measures are to be reviewed and improved.

Therefore, we:

Conclude that -

There is an urgent need to develop a comprehensive national strategies to prevent new incursions of IAS and to manage the negative impacts of those that have already invaded ecosystems and through these actions protect livelihoods, especially the poor, and our native ecosystems.

Thus, we:

Encourage -

Support for regional and global level coordination of activities against IAS and to build capacity of all stakeholders in IAS management.

Establishment of partnerships among various

stakeholders including Government, conservation and development partners, non-Government and community-based organizations, private sector, academicians and the general public, at local, national and international levels for developing and implementing IAS management strategies.

Young people to take up research programs on biology, ecology, and management of IAS.

Develop National IAS strategies in all countries to deal with IAS.

Call upon -

National, Regional and International Research and Development Agencies to make resources available to coordinate activities to prevent new incursions of IAS, to build capacity of developing countries to fight the threats posed by IAS and to develop and/or review national strategies, policies and action plans for biodiversity conservation.

Greater attention to the habitat shift of mega-faunal species including rhinoceros and tiger due to quality erosion and fragmentation of habitats caused by IAS invasions and climate change.

Identifying and providing livelihood opportunities for women, socially excluded, and vulnerable communities affected by IAS invasions.

Devising appropriate strategies to protect and build the resilience of ecosystems and local communities against possible adverse impacts of IAS, climate change and land use change.

And for the future -

Commit to:

Integrate multiple stakeholders in IAS management,
Create local, regional and global networking,
Initiate IAS management at local level,
Adopt adaptive learning in IAS management,
Share Information on IAS,
Maintain native biodiversity and livelihoods

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Upcoming Conferences on Weed Science and Invasive Species

4th International Symposium on Weeds and Invasive Plants

Dates: 18-23 May 2014

Venue: Montpellier, France

Website:

<http://invasive.weeds.montpellier.ewrs.org/default.asp>

International workshop on biological control and management of *Parthenium hysterophorus*

Dates: July 13-17, 2014

Venues: Addis Ababa – Ethiopia first 2 days

July 13 – July 15, 8:30 am to 12:00 noon

Nexus Hotel <http://www.nexusaddis.com/>

Adama – Ethiopia second 2 days

July 15 – July 17, 8:30 am to 12:00 noon

Kereyu Hill Resort

Hotel

<http://kereyuhillresorthotel.com/>

19th Australasian Weeds Conference 2014

Venue: Hotel Grand Chancellor, Hobart, Tasmania, Australia.

Dates: 1 Sept - 4 Sept, 2014

Website: <http://australasianweeds2014.com.au/>

8th Neobiota Conference

Dates: 3-8 November 2014

Venue: Antalya, Turkey

<http://www.oekosys.tu-berlin.de/menue/neobiota>

The Organisers:

ISWS(www.isws.org.in): The Society was established in 1968 coinciding with the green revolution in the country. Currently the Society is headquartered at Directorate of Weed Science Research, Jabalpur, in Central India. The society has over 900 life members, publishes quarterly journal- *Indian journal of weed science*, organizes biennial conferences, workshops and brain storming meetings on issues of topical interest. It recognizes the contributions of individuals to weed science by awarding fellowships and Gold Medals. Besides academic fraternity, the society has excellent relationship with allied professional societies, science departments and industry. We expect their support in organizing the 25th APWSS conference.


ICAR (<http://www.icar.org.in>): The Indian Council of Agricultural Research (ICAR) is an autonomous organization under the Department of Agricultural Research and Education (DARE), Ministry of Agriculture, Government of India. Formerly known as Imperial Council of Agricultural Research, it was established on 16 July 1929 with headquarters at New Delhi. The Council is the apex body for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country. With 99 ICAR institutes and 53 agricultural universities spread across the country this is one of the largest national agricultural systems in the world. The ICAR has played a pioneering role in ushering Green Revolution and subsequent developments in agriculture in India through its research and technology development that has enabled the country to increase the production of food grains by 4 times, horticultural crops by 6 times, fish by 9 times (marine 5 times and inland 17 times), milk 6 times and eggs 27 times since 1950-51, thus making a visible impact on the national food and nutritional security. It has played a major role in promoting excellence in higher education in agriculture. It is engaged in cutting edge areas of science and technology development and its scientists are internationally acknowledged in their fields.

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ANNOUNCEMENT



25th Asian Pacific Weed Science Society Conference

Hyderabad, India

13-16 October, 2015

Welcome to India!

India would be hosting the Silver jubilee (25th) edition of the Asia Pacific Weed Science Society Conference in 2015. As it is coming to the country after a gap of 34 years (the last one was held in 1981), the whole weed science community is waiting for this event with bated breath. The interest and the expectation is palpable. We are committed and leave no stone unturned to make this event a grand success and a memorable one. The conference will be organized by the Indian Society of Weed Science (ISWS) in collaboration with Indian Council of Agricultural Research (ICAR), other allied professional Societies and Industry partners.

Tourism in India

Tourism is a major industry in India and its rich history and its cultural and geographical diversity make its international tourism appeal large and diverse. All metro cities have excellent connectivity by air. India is one of the most amazing destinations in the world catering to the expectations of all kinds of interests from spiritual and wild life to adventure and medical tourism. There is a wide canvass of destinations to choose from. Visit incredible India at www.incredibleindia.org for details.

All major tourist destinations are connected well by air, rail and road. India has one of the robust hospitality industries in the world with a wide choice of high class hotels including budget hotels. India is also known for its high quality local cuisine. According to Visa Asia Pacific, India has emerged as the fastest-growing market in the Asia-Pacific in terms of international tourist spending. The Travel & Tourism Competitiveness Report 2011 ranked the price competitiveness of India's tourism sector 28th out of 139 countries.

The Host City: Hyderabad

Hyderabad is the capital city of Andhra Pradesh (AP) and the fifth largest city in India, with an ancient civilization and culture. The city is nearly 400 years old and is noted for its natural beauty, mosques and minarets, bazaars and bridges, hills and lakes. It is perched on the top of the Deccan Plateau, 1776 ft., above sea level, and sprawls over an area of 100 sq. miles. The places of interest include Charminar, Mecca Masjid, Golconda Fort, Qutb Shahi Tombs, Spanish Mosque, Chowmahalla Palace, Falaknuma Palace, Birla Mandir, Salar Jung Museum, Statue of Buddha amid the Hussain Sagar Lake, etc. While AP is known as the most IT savvy state in India, Hyderabad is emerging as a major center for IT exports. International Crops Research Institute for Semi-Arid Tropics (ICRISAT), Prof. N. G. Ranga Agricultural University (ANGRAU); Central Research Institute for Dry land Agriculture (CRIDA), Directorates of Rice, Sorghum, Oil seeds and several agricultural research organizations are located in Hyderabad.

Weather:

In the month of October, weather would be pleasant as it is the end of rainy season. Average temperature in early October ranges from a mean maximum of 30° C to a mean minimum of 20° C.

Connectivity:

Hyderabad is well connected by air with many international and national destinations.

Detailed information about the conference, the theme and the sub-themes, the venue; registration details, and available accommodation will be informed soon in the form first circular which will be brought out soon.

