

Select list of awards, honours, and honorary degrees

Awards and honours

Commander in the Order of Leopold II, by His Majesty King Albert II of the Belgians	(2009)			
Commander of the White Rose of Finland, by the Prime Minister of Finland,				
the Right Honourable Matti Vanhanen	(2010)			
Officier de La Légion D'Honneur, by the Government of France				
Knight of the Order of the Star of Italy, by the President of the Republic of Italy,				
His Excellency Giorgio Napolitano	(2014)			
The Order of the Rising Sun, Gold and Silver Star				
by His Majesty Akihito, the Emperor of Japan	(2010)			
The Order of the Aztec Eagle, by the President of Mexico, His Excellency Felipe Calderon				
Honorary degrees, by country				
Doctor of Science, the University of New South Wales, Australia	(2008)			
Doctor, University of Antwerp, Belgium	(2010)			
Doctor, Universidad Autónoma de Santo Domingo, Dominican Republic	(2017)			
le Doctorat Honoris Causa, L'Université de Reims Champagne-Ardenne, France	(2012)			
Doctorate, University of Athens, Greece	(2009)			
Doctorate, Ritsumeikan University, Japan	(2007)			
Doctorate of Engineering, Universiti Tenaga Nasional, Kuala Lumpur, Malaysia	(2012)			
Doctor, National University of Mongolia, Ulaanbaatar, Mongolia	(2011)			
Doctor of Science, Loughborough University, U K				
Doctor of Humane Letters, Yale University, U S A				

Dr R K PachauriThe Crusader Against Climate Change

Editors

Yateendra Joshi, P K Jayanthan, Vibha Dhawan, Amit Kumar, Rakesh Kacker

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The Energy and Resources Institute

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Contents

- vii Foreword
- ix Preface
- 1 Dr R K Pachauri's contributions to Mexico's sustainability culture Jorge Núñez Alba
- 3 Dr R K Pachauri: the relentless warrior against climate change *His Serene Highness Albert II*
- 5 A visionary and a roving ambassador for climate change and global sustainable development *Viney P Aneja*
- 7 There are people who will always be present

Rosalía Arteaga Serrano

9 In honor of Dr R K Pachauri

Brian Baird

11 Dr Pachauri, an influencer for life

Dipka Bhambhani

13 Rajendra was always there

Solomon Chertorivsky

15 A homage to Dr Rajendra Pachauri

Emil Constantinescu

17 Rajendra Pachauri's legacy in Mexico, Latin America, and the world

Santiago Creuheras

21 A restless soul

P R Dasgupta

23 An order of magnitude higher

Richard B Dasher

25 The unforgettable Dr Pachauri

Martha Delgado

27 From environmental problems in Bangladesh to global climate change: Tribute to Rajendra Pachauri

Ludo Diels

30 Patchy: a true friend

Adrian Fernandez

32 Where are your students?

Andreas Forsthövel

34 In memory of Dr R K Pachauri

Dirk Fransaer

37 Dear Dr R K Pachauri

Fun Gao

41 Dr R K Pachauri as I knew him

G S Gill

The creator of the Protect Our Planet Movement and his selection of México to launch it *Eleonora Isunza Gutiérrez, Luis Tamayo Pérez, Antonio Sarmiento Galán*

46 Dr Rajendra Pachauri

Lawrence Gonzi

50 Climate change, children and young people: a remembrance of Dr Rajendra K Pachauri Donna L Goodman

53 Reminiscing Patchy

Timothy G. Gregoire

55 A mighty good man

Theo Groothuizen

58 Remembering and paying homage to Patchy

Ameenah Gurib-Fakim

60 Dr Pachauri and his contribution to the success story of Joint Implementation under the Climate Convention

Ted Hanisch

63 My fond memories of Dr Rajendra Pachauri

Yukio Hatoyama

65 We protect our planet together

Bjørn K Haugland

67 In remembrance of Rajendra Pachauri

Connie Hedegaard

69 Rajendra Pachauri: a joyful participant in the sorrows of the world

Lunce 1gnor

71 Bringing climate activism to the World Academy of Art and Science

Garry Jacobs

73 Patchy: the dedicated climate change warrior

Lars Jacobsson, Ragchild Jacobsson

75 Remembering Patchy

Prem Shankar Jha

79 A lifelong friend

Jinfeng Zhou

81 The privilege to get to know a Master's life

José Ernesto Bermejo Jiménez

83 Memories of Patchy

Anil Kakani

85 Tribute to Dr Rajendra Kumar Pachauri

Madhav B Karki

89 Down memory lane

Vijay Kelkar

92 Essay in memory of Dr R K Pachauri

Ban Ki-moon

94 Dr Rajendra Kumar Pachauri: preeminent advocate for actions to tackle climate change and promote sustainable development

Masanori Kobayashi

97 History

Maritta Koch-Weser

99 Dr R K Pachauri, an unforgettable Martinian

Vijay Mohan Kohli

101 Constantia and Labore:

Dr R K Pachauri and Major General Claude Martin

Jean-Marie Lafont

104 My friend Patchy

Brice Lalonde

106 A memory of his eternal light shining in the sky: a tribute to Dr Rajendra Kumar Pachauri *Jin Lan*

109 Commemorating Dr R K Pachauri, former chair of the IPCC

Jian Liu

112 Rajendra, sustainable development lord of kings

Carlos Lopes

114 In memory of Dr Rajendra Pachauri

Henrik O Madsen

116 The legacy of Rajendra Pachauri: a personal reflection

Michael E Mann

118 A tribute to Dr R K Pachauri

Peta Milan

120 In memoriam of Prof. Pachauri and his devotion to make the world a better place *Nebojsa Nakicenovic*

122 A visionary and a gentleman

Ramesh Narayan

124 The approachable academic star

Kapil Narula

127 Dr R K Pachauri: an institution builder

Shailesh Nayak

129 Recalling a leadership

Yeshey Penjore

131 When courage meets conviction

Paul Polman

133 'Patchy': the man in the dark homburg hat

John R Porter

135 Tribute to my dear friend

Suresh Prabhu

137 Tribute to Dr Pachauri

John Prescott

139 Fond memories

Jairam Ramesh

141 The Patchy I knew

Mike Rann

145 Moving on

Izarelly Rosillo

148 Tribute to Dr Rajendra Pachauri

Tiahoga Ruge

150 Rajendra K. Pachauri's contributions to sustainable development and generally to climate change Assaad Saab

152 A tribute to my friend and brother, Dr R K Pachauri (Pachy)

Anjali Saha

154 Patchy: A giant footprint

Viney Sahgal

156 Commemorating Patchy

Maki Sato

158 Patchy

Norma Patricia Muñoz Sevilla

160 Salute to the charismatic Dr R K Pachauri

U Singh

162 Understanding climate change from a base in the Himalayas: a tribute to Rajendra Pachauri *Victor Smetacek*

167 Patchy the speedyman

Youba Sokona

169 The whole universe is one family: Patchy and his world

Erik Solheim

173 Dr R K Pachauri: a friend of four decades

Joseph Stanislaw

176 Patchy: a friend and partner for a sustainable world, a sustainable India and actions on climate change

Björn Stigson

178 A tribute to Dr R K Pachauri

Terry Tamminen

- **180** A tribute to Dr R K Pachauri *His Excellency Anote Tong*
- 183 Patchy and the IPCC *Kevin E Trenberth*
- **187** How a person becomes the symbol of a cause *Danilo Türk*
- **189** A chance encounter *Paraj Tyle*
- **191** A true climate warrior *Felix von Geyer*
- 193 A Tribute to Patchy from the Arctic *Arne Walther*
- **195** Honor the memory of my mentor, Dr Pachauri *Tian Wen*
- 197 Dr R K Pachauri's legacy *William Wilson*
- 199 Remembering Dr R K Pachauri *Zhang Yue*
- **202** Our beloved Dr Pachauri: immortal and timeless *Zainab Yusufzai*

Messages

- 205 Salman Ahmad and Samina Ahmad
- 206 Nahid Ayala
- 207 Albina du Boisrouvray
- 208 Jasmina Bojic and Misha Milojkovic
- 209 Bryan Cooke
- 210 Héctor Mayagoitia Domínguez
- 211 Ana Dutra
- 212 Erik Eid Hohle
- 213 John Kerry
- 214 Tushar Lakhani
- 215 Mark D Levine
- 216 Ulrich Loening
- 217 Wanjira Mathai
- 218 Richmond Mayo-Smith
- 219 Paul McCartney
- 220 Cherie Nursalim
- 221 Carter Ries
- 222 Bittu Sahgal
- 223 Sadhvi Bhagawati Saraswati
- 224 Michael P Schulhof
- 225 Naina Sharma
- 226 Liz Updike
- 227 John Vidal
- 228 Jonathan R Woetzel

Foreword

There are some people who never depart. Dr R K Pachauri, Patchy to his friends, was one such person. Deeply committed to protecting our planet and leaving the world a better place for future generations, he was convinced, the only way was for the youth to take the lead. Through the POP (Protect Our Planet) Movement, he focused on inspiring young people to take climate action based on knowledge. He stood up to his distractors steadfastly and, with conviction, advocated his point of view. He was an inspiring and untiring leader who led from the front.

The TERI Alumni Association, the POP Movement, and many more continue to celebrate the relentless, climate warrior. This collection of articles is a tribute and dedication to Dr Pachauri by his friends, colleagues, and acquaintances.

Several years ago, I was introduced to 'Patchy' by Prof. V Ramanathan of the Scripps Institution of Oceanography, in La Jolla, California. I had gotten to know 'Ram' during my role on the Advisory Council of Scripps; he was a widely renowned and most impressive, if I may say so, climate scientist. One day Ram emailed me to arrange a meeting with Patchy. These two learned human beings came to our apartment on Russian Hill in San Francisco, and for an hour or more we exchanged on 'who am I' and what are we doing in this life! Following this introductory exchange, we went to dinner at the Big Four restaurant in the Huntington Hotel in San Francisco. (One curious coincidence was at the table next to us, Gov. Jerry Brown, whom Ram knew personally, was dining with colleagues.) Altogether The three of us spent nearly four hours in this initial meeting, conversing on a wide range of topics on which we three shared a mutual interest.

Patchy was then chairman of IPCC, the Intergovernmental Panel on Climate Change, an organization about which I personally had only cursory understanding. By the conclusion of our dinner that first evening, I knew a whole lot more about the IPCC, and to say I was impressed by Patchy would be putting it mildly. In my years at Scripps, I not only had gotten to know Ram personally, but I had also come away with a reasonable understanding about the fact that human beings, burning massive quantities of fossil fuels to meet their energy demands, were inadvertently creating 'global warming'. Carbon dioxide, a potent greenhouse gas, was a waste by-product of oxidizing fossil fuels—and its lifetime in the atmosphere is measured in centuries. The three of us conversed extensively on this topic, and I came away with an even greater sense of urgency than I'd assimilated in my association with Scripps. Patchy led the explanation of this process, with more than a little concurring supportive comment by Ram.

Wow, I immediately thought, this global warming problem is both more emanant and catastrophic than I had previously realized. With far greater sense of urgency, I wondered why the 'world' had so steadfastly 'refused' to believe this message. The science was clear, for the confirming data was 'in' and the conclusion unambiguous. The IPCC had received the Nobel

Peace Prize for its work on this topic, but the culture system in which all humans reside, supposedly overseen by politicians, was largely ignoring the conclusion. Patchy argued, among other important topics, that those who could and would learn this conclusion and its implications were the young people everywhere. I was also to learn that a lot of this conundrum was explainable by the fact that the 'fossil fuels industries' were among the largest contributors to political campaigns ... so it was clear that the politicians were generally reluctant to 'bite the hand that fed them'.

I must say, I was nothing short of shocked to learn about how this 'vested political interest' was systematically acting in contradiction to the notion of a 'government of the people, by the people, and for the people'. I was personally only slowly awakening to this pernicious conclusion. Patchy, and Ram, were 'bending my mind' in ways that I had only become vaguely aware of before my association with Scripps and Ram, and then Patchy.

My seminal takeaway from this critical first meeting with Patchy was that he was a scientist in search of the truth, and when he had grasped it, he would tell it as it is ... let the 'cards fall where they may'. This unbending attitude of Patchy's was a very bright light for me, an awakening which is still unfolding for me. I'm eternally grateful for the times I had the privilege to spend with Patchy over the years after our first introduction, and they became more frequent after he stepped down as the chair of the IPCC. I was always amazed at the clarity of his 'data-driven-scientist' view of the world ... he left an immeasurably important impression on me. This fact I shall always be immensely grateful to him for ... may he rest in peace.

Dr Mac McQuown Partner, Co-Founder, and Director, DCI [Diversified Credit Investments], San Francisco and International Advisory Board Member, Protect Our Planet Movement Preface

The companion to this volume, published in 2020 under the title *Dr R K Pachauri: the visionary institution builder*, comprised contributions from members of the TERI Alumni Association. The contributors, in paying a tribute to their former boss, described their interactions with him and what they had learnt from him.

Although in his days people used to say that TERI is Dr Pachauri, he was of course much more than TERI because he was a crusader against climate change and strove for, and succeeded, in making world leaders and other influencers realize how serious the problem of global climate change was and in convincing them that ambitious, comprehensive, and urgent measures were required to adapt to it and to mitigate its adverse impacts. Dr Pachauri first convinced scientists, then convinced the rest of the world, and, in his final years, sought to rally the young to continue his lifelong batter against climate change—he set up the Protect Our Planet movement.

The present volume brings together contributions from distinguished members of Dr Pachauri's international network. Given the stature of the contributors, we have opted to arrange the contributions in alphabetic order of their authors, except that the shorter contributions have been brought together in a separate section, which is titled Messages.

The editors wish to acknowledge the help and cooperation received from Dr Ash Pachauri in sourcing contributions from those related to the Protect our Planet Movement and the World Sustainable Development Forum and to thank Ms Sangeeta Badhwar, Joint Secretary, TAA and Mr Shyam Sunder Nayar, Ms K Radhika, Ravi Nair, and S V V S S S Prasad of TERI, for their valuable support. Thanks are also due to Ms Anupama Jauhry, Mr Santosh Gautam, Mr Rajiv Sharma, and others of the team in TERI Press for their help in the design and publication of this book.

Our grateful thanks to all the contributors for taking some time off from their busy schedules to share their thoughts and helping us to create this book.

New Delhi February 2022 Yateendra Joshi P K Jayanthan Vibha Dhawan Amit Kumar Rakesh Kacker

Dr R K Pachauri's contributions to Mexico's sustainability culture

JORGE NÚÑEZ ALBA

Science and Society Program Coordinator and Professor, Chemistry Faculty, National Autonomous University of Mexico (UNAM)

y first encounter with Dr Pachauri was during a conference he was giving to authorities of Energy Ministry about sustainability. It had a very clear and straightforward focus, namely the impact of greenhouse gases in the climate equilibrium of the planet. He was presented as a recipient of the Nobel Prize for the work at the IPCC, which is why everyone listened to him so attentively. However, his warm style to communicate gave me enough confidence to suggest him the possibility of transmitting his message to professors and students of the Chemistry Faculty of UNAM, based on his POP movement.

He accepted immediately and we confirmed a meeting with the professors and students that formed part of my Youth Leadership Project that was in development as a spinoff project of the Science and Society Program with the support and guidance of other professors. We met at the hotel were Patchy and Ash were hosted and it was an enjoyable and memorable meeting in which all perceived the magnetic personality, warmth, and simplicity of the father and son as an excellent team to promote sustainability in a university environment.

That was the first step in a long-lasting and fruitful relationship, conducted at the beginning of a formal task, namely to develop the POP movement in our faculty with the approval of the Faculty Director, in response to the official recognition of Dr Pachauri of the POP movement by the faculty.

The next step was to establish the basis of collaboration and prepare the leading students to develop various ideas and tasks to promote sustainability within the academic environment of our faculty. The main goal was to introduce sustainability in everyday culture. Many ideas and tasks were developed and proven, considering that this was

a pilot project and changing old patterns of behaviour in thousands of students was a long-term project, and this was the trial-and-error stage, launching seeds that could germinate in the medium term.

The main initial goal was achieved: to form a sustainability-oriented brigade that developed various actions of diffusion mainly at the sophomore level.

That brigade discovered that to obtain long-lasting results in a dynamic population like our faculty that changes year after year is a very challenging task and the main lesson was that they needed continuing guidance of their academic tutors to design and implement ideas and projects.

The presence and support of Patchy and Ash were continuous and without restrictions. Dr Pachauri gave a general conference to faculty students that had a great impact and spurred interest in supporting the POP movement.

A very special testimony was the participation at the World Sustainable Development Forum in Mexico in 2018. This great event represented a magnificent opportunity to develop special skills in the POP brigade with the interaction with personalities at a global level and experiences and knowledge that represented a leading focus in their professional life and goals.

His trajectory as an environment missionary established the basis for cooperation through this international forum, reinforcing the POP movement in youngsters and tutors to enhance actions against climatic change. His main contribution, a new conscience state about sustainability in our community, motivating new generations of chemists to redefine our life mission, avoiding actions that enhance environmental impact on our interconnected planet.

His luminous legacy will be honourably and effectively transmitted by Ash and we will be always open to develop projects that contribute to raise the conscience of humanity against the dangers of climate change and the blessed concept of sustainability, guided by the lifetime testimony and memory of our beloved mentor, R K Pachauri.

Dr R K Pachauri: the relentless warrior against climate change

HIS SERENE HIGHNESS ALBERT II

Prince of Monaco

r Rajendra Kumar Pachauri has left a deep and rare imprint in the minds of many of us. There are many reasons for this, which stem as much from his personality as from his commitments, and which hopefully this book will keep alive and perpetuate.

In addition to his charisma, intelligence, and the passion that inspired him, I would like to highlight the outstanding contribution he made to the fight against global warming, which was one of his greatest lifelong commitments. Few men will have fought this battle so vehemently as he did, which I believe to be among the most challenging one humanity has had to fight in this century. The Nobel Prize awarded to IPCC during his chairmanship is, of course, the most striking illustration of this. However, this extends far beyond one-time recognition—as legitimate and well-deserved as that may be.

When Dr Pachauri took up the position as head of the IPCC, the latter was still relatively unknown – beyond the circle of specialists – and as such had little influence. With him, and largely thanks to him, this group took on a new political dimension, establishing itself as a key player in the growing mobilization of states and civil society to promote climate.

This change owes a great deal, of course, to the vast historical movement which we have witnessed over the years and which has surpassed us. But it also owes so much to the resolute action of Dr Pachauri, who successfully established crucial links between the work carried out by the scientific community and the initiatives of decision makers, both political and economic.

In my opinion, these links form the core of all effective action.

Without scientific insight, any environmental initiative is bound to scratch only the surface, without any real power. Yet without an operational extension, the findings of

scientists are unfortunately often only abstract truths, incapable of actually bringing about change.

This is what Dr Pachauri understood, and that is why he brought onboard with him the scientific community, whose work was instrumental in ensuring the quality of the successive reports produced by the IPCC, as well as politicians and public opinion leaders, whom he made aware of the relevance and value of such work.

This focus on linking knowledge with action, which I think is rooted in his engineering background and which was also illustrated in his action as head of The Energy and Resources Institute, should be a source of inspiration for all of us.

While discussions on sustainable development are too often limited to ideological oppositions, I feel it is vital to return to this duty of truth and efficiency.

To perpetuate Dr Pachauri's outstanding action, we therefore need to keep in mind this dual requirement.

We need to trust scientists, to support them, help them, listen to them, just as he did, and give them the prominence they deserve in public debate. And we also need to find ways together of using their knowledge and giving substance to their recommendations through concrete initiatives, sometimes modest, sometimes ambitious—which, pooled together, linked to each other, will enable us to change things and to save our planet, which is currently under so much threat from the tremendous dangers posed to it by humanity.

By acting this way, by supporting researchers and laboratories both in Monaco and worldwide, and by implementing concrete actions developed with them, in the light of their findings, is for me also a way of paying tribute, day after day, to the action of this great man, Dr Rajendra Kumar Pachauri.

A visionary and a roving ambassador for climate change and global sustainable development

VINEY P ANEJA

Professor, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, USA

r Pachauri and I arrived at North Carolina State University, Raleigh, NC, USA, in Fall 1971 to pursue graduate degrees, he in Industrial Engineering and I in Chemical Engineering. Because both the departments were in Riddick Hall, we would run into each other often. We took a liking for each other from the start since we had had similar upbringing in India as we both attended private boarding schools in northern India.

Soon we started to have lunch together. We would talk about all sorts of things, both mundane and serious. He was about ten years older than I. He was married with two daughters (Rashmi and Sonali) when he arrived at NC State University. His lovely and wonderful wife, Saroj (whom I called bhabi, which is Hindi for an older brother's wife), started inviting my twin brother, Arun, and me to their home for dinner. As time went on, we took the liberty of simply showing up for dinner since we greatly enjoyed bhabi's cooking. These were wonderful and impactful years for us both.

After the completion of our graduate degrees, we parted ways for many years, but stayed in touch: he left the US to return to India, whereas I joined a US multinational company, General Electric, and started my professional life. However, we reconnected again in about 2010 since we had a common interest in the environment.

I had deep admiration and respect for him as a friend and as a sounding board. He was a rare combination of an accomplished scholar, effective administrator, and a gentleman. He was a tireless supporter of scientific cooperation. He brought his interdisciplinary

understanding of engineering and economics to solving complex global challenges, or wicked problems, dealing with climate change and sustainable development. He was profoundly influenced by India's ancient Rig Veda philosophy of 'Vasudhaiva Kutumbakam', which means 'the whole universe is one family', and it must dominate global efforts to protect the global commons.

Dr Pachauri was a gentleman, a scholar, and a visionary. He founded TERI, The Energy and Resources Institute, in India and subsequently the TERI University. He invited me to spend a sabbatical at TERI University as an Indira Foundation Distinguished Visiting Fellow during 2015. He mentored many junior scientists and was always happy to discuss ideas. He spent a substantial amount of his precious time on advising students, inspiring them by sharing his wisdom and kindness, and letting them draw from the deep well of his lifetime's experience. He authored or co-authored numerous books and scientific, peer-reviewed manuscripts. He contributed immensely to climate change and global sustainable development.

He was a very effective administrator. During his long career, he not only nurtured the development of TERI organization as a leading global advocacy group dealing with energy and the environment, but also helped shepherd the IPCC, the Intergovernmental Panel on Climate Change, dedicated to providing the world with objective, scientific information relevant to understanding the scientific basis of the risk of human-induced climate change, its natural, political, and economic impacts and risks, and possible response options. In December 2007, the IPCC was awarded the Nobel Peace Prize. He was a negotiator, facilitator, and moderator in his many professional roles. He combined scholarly knowledge delivered in a polished, refined, and cosmopolitan style befitting a man of respected character.

Dr Pachauri was a man of formidable intellect. In him we saw a visionary, a man with a disciplined mind ready to cultivate the art of the possible. In him we saw a decent man with an admirable sense of responsibility for the global challenges of the environment. Those global challenges were his challenges and personal mission. In him we saw a consummate family man and a father. Dr Pachauri will be dearly missed by his family, by his friends, by his colleagues, and by the students he nurtured and inspired. I will miss him as a friend. Dr Pachauri leaves a legacy behind with us. All who knew him carry his passion for knowledge, his perseverance, and his determination to work towards solutions of our complex global environment.

There are people who will always be present

ROSALÍA ARTEAGA SERRANO

Former President and Vice President of the Republic of Ecuador

List is necessary, today more than ever, to refer to personalities who have influenced history and who are role models for present and future generations, and one such personality essential in the fight to raise awareness and draw the attention of world leaders to the imminence and importance of the phenomenon called climate change was Dr Rajendra Kumar Pachauri. He, in his capacity as Chairman of IPCC, the Intergovernmental Panel on Climate Change, led a group of prominent members of the international scientific community to warn the world leaders of the danger, based on verifiable scientific studies carried out in various regions of the globe. This awareness was about the need to take clear actions to avoid acceleration in the deterioration of the main indicators of the planet, about the actions of human beings that exert pressure on natural resources such as water, fertile land, and biodiversity resources as well as the concern about the weakening of the ozone layer, air quality, and species extinction, among others.

The alerts that Dr Rajendra Kumar Pachauri addressed were fundamentally towards governments, whose responsibility is greater, especially from large countries that are also the most important emitters of pollution. These were also directed to each human being, to each one of us on the need to assume responsibility for everything we do or fail to do.

Responsible consumption was one of Dr Pachauri's concerns. And it is something that I cannot stop thinking about when we must refer to his thinking and actions in the search for a sustainable world and human beings, convinced that the environmental footprint that we each leave has an impact for which we must take responsibility.

His work in defense of his principles and the planet did not cease. Therefore, he continued forward, after leaving the chairmanship of the IPCC, a position that he held for 13 years. Under his leadership, this organization received the Nobel Peace Prize in 2007. He continued to lead initiatives such as WSDF, the World Sustainable Development

Forum, to which he was kind enough to invite me to participate as a member of the board, along with prominent personalities, friends whom he met throughout his busy and multifaceted life. His friends did not hesitate to support him in the different spaces in which he ventured, all intended to be the consolidation of a more viable world, a sustainable and equitable planet.

Pachauri was an example and left a legacy of activism around the world that could hardly be surpassed. His multiple initiatives and calls in defense of the planet evidence this. Promoting the implementation of the Paris agreement and the UN Sustainable Development Goals, which became, by decision of the United Nations and most of the world's governments, the most valid mechanisms to achieve the goals that we as humanity must achieve.

Despite the strength of his actions, we know that the work and initiatives to defend the quality of life on the planet cannot decline. Therefore, it is essential to follow the path outlined by Dr Pachauri in search of sustainability and equity, narrowing the gap between those who have a lot and those who have very little or nothing.

Attention cannot decline. So, we must multiply the voices like those left by Dr Pachauri as a legacy. Voices that are now diversifying with the work of the POP Movement, Protect Our Planet, created by him that his son, Ash, has been working for with enthusiasm and dedication without limit. It has attracted fantastic participation of young people from all over the planet. They not only think about the problems of the future but also try to solve them with their permanent actions, their examples, and the involvement in specific initiatives. They can and do make a difference. They are present with the same enthusiasm in places as distant from each other as their native India or my country Ecuador, through Portugal, Brazil, Bangladesh, or Kenya.

There are immanent needs of the human being such as food. For it, the nutrients that come from different sources are needed. But these requirements cannot imply the destruction of what surrounds us, of the land that we are called to care for and maintain, for personal and collective interests.

I remember the story I heard as a child, with the fascination that stories produce but with the impact that the implicit moral must leave on us. The story of the hen that lays the golden eggs teaches us that restraint is important and that greed leads us to a bad end like when the farmer decides to kill the hen that produced daily one egg, and it was enough for himself and his family to live. He thought that inside the bird he would find the mine and he would become immensely rich. The reality is that the end of the hen is also the end of egg production.

The question, therefore, is based on the consideration of whether we want to end what sustains us. It seems that persistent ambition and greed of many human beings, the unbridled consumerism and the desire to accumulate, are destroying the priceless treasures with which nature surrounds us.

From this country located in the middle of the world, I honor the scientist, philosopher, thinker, and activist Rajendra Kumar Pachauri. From this biodiverse Ecuador, located in prodigious geography, Andean and Amazon at the same time, populated by hardworking and industrious people, we join in remembering a visionary man committed to his ideals of preservation, conservation, and responsible and equitable use.

In honor of Dr R K Pachauri

BRIAN BAIRD

Member of Congress (WA3-1999-2011)

It is a rare thing for a human being to set out to save the world, but that is the task R K Pachauri accepted when he took over the fight against climate change. What was so remarkable is that even as he confronted the existential threat to the planet, and even as he ran into countless obstacles and extraordinary resistance, he managed to persevere with a seemingly tireless spirit and with grace, kindness, and humility.

Those of us who were privileged to know and work on the same cause as 'Patchy' marveled at his ability to convene people from all around the world and across multiple disciplines and backgrounds to focus on the common mission. In my role as chairman of the US House of Representatives science subcommittee on Energy and the Environment, I was fortunate to meet with Patchy on many occasions and to communicate with him online and on phone frequently. I also had the opportunity to attend several of the international gatherings that he organized to promote renewable energy, sustainable development, and other climate-related topics. In all our interactions, I always felt the utmost sincerity, personal commitment, and interest in not only what he was doing but in what others were engaged in.

Ocean acidification is one of the important topics that I often discussed with Patchy. While many of those who focused on carbon dioxide impacts on climate rarely mentioned the parallel impact on ocean chemistry, Patchy fully appreciated the danger and the ongoing damage and he made sure to include the topic in greater detail in each subsequent report and at each new conference. When I drafted the Federal Ocean Acidification Research and Monitoring Act for the United States Congress, I spoke with Patchy several times about the aims and structure of that legislation. He, of course, appreciated its importance, knew the science exceptionally well, and, as always, was encouraging of our efforts and generous in offering his own insights on the issue.

Sometimes just the right person comes along at just the right time and when that happens the world is made better for it. That was certainly the case with Dr Pachauri. Managing the extraordinarily complex, sensitive, and vital IPCC effort to coordinate the international research and policy relating to climate change and ocean acidification was

a superhuman challenge. In R K Pachauri, the planet had the right person for the job.

Patchy's passing away is a deep personal loss to those who knew, worked with, and loved him. It is also a loss to the planet. But life ultimately is a relay race and Patchy carried the mission forward as few other of our time have and none has done more for the effort. He will be deeply missed but his work, his legacy, and his example will live on.

Dr Pachauri, an influencer for life

DIPKA BHAMBHANI

Senior Contributor, Forbes magazine

In 2007, when I was a reporter covering electricity, I saw Dr Pachauri for the first time at a Deloitte conference in Washington, DC. He was at the helm of the IPCC, the Intergovernmental Panel on Climate Change, which had just been awarded the Nobel Peace Prize with former U.S. Vice President Al Gore. Dr Pachauri seemed elusive, to me anyway. This was a man changing the world, guiding it, not just the energy and environmental community. How could I ever expect to interview him, I thought. It was a long shot.

I did interview him in November 2019 about a story on carbon-capture and sequestration for *Forbes*. I believe this revolutionary change where the United States was suddenly leading the world on climate action was because of Dr Pachauri.

Dr Pachauri said global temperatures should not be allowed to climb to more than 1.5 degrees Celsius above their pre-industrial levels, and at worst, greenhouse gas emissions must peak on or before 2020, after which a sharp reduction in global emissions must occur. To that end, he said numerous options were on the table for industry and governments to reduce emissions, including carbon-capture technology.

I formally met Dr Pachauri in February 2018 when he invited my boss, the late Barry Worthington, who led the U.S. Energy Association for 30 years, and me, his first communications director, to the World Sustainable Development Forum in Mexico City. I could not believe the assembly, high-level energy executives and influencers, bringing a confluence of ideas and perspectives to a conversation about moving the needle, actually getting to those climate targets Dr Pachauri had laid out in various iterations of his original work with the IPCC.

Dr Pachauri was full of life, gracious, and he spent quite a bit of time with Barry and me. It was surreal. This man, who had already changed the world, had time for us. He made us feel welcome, important to the cause, and his hospitality was unparalleled.

That week of conversations was productive and harmonious, even when there were disagreements. The way Dr Pachauri curated the conference and fostered open conversation was unique and artful. The world has lost a bridge, a diplomat when we need one most.

It was about 8 a.m. the day of the interview in November. I was in Washington, DC. Dr Pachauri was in New Delhi; it was a Skype interview. He asked me to call him Patchy. I could barely address him by any name. I never obliged by calling him Patchy except that one time. He said his friends did.

Dr Pachauri's legacy in my view is his humility and his humanity. It's what drove him to success, earned IPCC the Nobel Prize, and it's why so many people call him friend, and I now call him Patchy.

I had hoped Barry and I could see Dr Pachauri again in Mexico City during another World Sustainable Development Forum, but he passed away. Then, COVID-19 ravaged the world, and Barry also passed away, in August 2020.

There is a void. Perhaps ironically, the world met that 2020 emissions target and is now embarking with an accelerated pace into a clean-energy revolution. Dr Pachauri, your work is done. Rest in peace.

Rajendra was always there

SOLOMON CHERTORIVSKY

Professor and Researcher at CIDE and Member, Mexican Chamber of Deputies

r Rajendra Pachauri was one of those men of immense spirit who have set foot on our planet. One of those people who see further, capable of realizing a risk that another five billion cannot even imagine. A visionary. One who assumes his condition as his own responsibility and is committed to delivering a better world than was bequeathed to him, and he did it from science.

I met him when I was responsible for the economic development of Mexico City, a metropolis that represents a fifth of the economy of Mexico (if it were a country, it would be the sixth largest economy in Latin America), and one that was urged by a true growth plan with care for the environment, sustainability, and combating climate change as a central axis.

The first thing that surprised me was his willingness to answer our call—without delay, without bureaucracy, without any other obstacle than physical distance. But Pachauri was always there, ready to collaborate on any important project that seriously stood up against the climate emergency.

And then we had Rajendra: the activist and his intense willingness to travel, speak, listen, and convince—facets of his personality in which he also became my dear teacher, my advisor, and my friend.

I think he was in Mexico City three times to support us, in person: he, who had been the head of the United Nations Intergovernmental Panel on Climate Change and who, years ago, had been decorated by Mexico with the highest distinction that our country grants, namely the Aztec Eagle.

From the first moment he understood that we could develop a plan to transform one of the largest urban areas in the world, and that we could make it a benchmark for the energy transition and clean energy in that vast region of the globe that we call the third world. As was typical of him, he decided to help us without limitations. It was under his guidance that we were able to establish the first clean energy agency for the City, in a framework of scientific, technical, and professional collaboration that lasted two years the core thesis of which was this: we incorporate the economy of renewable sources

of energy into the real economy of the big cities, or we will remain tied to the age of fossil fuels.

Personally, I enjoyed his friendship and long talks. Once we traveled together to Berlin to prepare the advisory committee for the World Clean Energy Expo in Astana, Kazakhstan. We traveled to that exhibition and each space, each meal, each walk, became a joyful learning moment for me.

Mexico, and as far as I know, Mexico City, owe Pachauri the moral impulse and intellectual support to begin the energy transition at the heart of its society and its economy. Today, in the year 2021, there are local politicians who have not understood it; Rajendra understood from the first call. I insist, he was always with us.

Nobel Prize was rarely more deserved and better delivered. A high-flying scientist of great imagination and insight, his wisdom and personal warmth will also be part of his legacy.

A homage to Dr Rajendra Pachauri

EMIL CONSTANTINESCU

President of the Scientific Council of the Institute for Advanced Studies in Levant Culture and Civilization and President of Romania (1996–2000)

It is with some difficulty that I sit down to write of my friend, Rajendra Pachauri, in the past tense. Nevertheless, I shall, in the knowledge that I can celebrate his prestigious name and achievements, and in the hope that those who read these few lines might find out who Dr Rajendra Pachauri was, and how it was that he changed the world for the better.

I met Rajendra because of his profound interest in Romania. An economist by trade, he defended his PhD dissertation in economics in the 1970s America, under the supervision of the great scholar Nicolae Georgescu-Roegen. The influence of his mentor shone through not only in Rajendra's professional activity, but also in his great affection for Romania and all things Romanian. All of our rendezvous – either at the World Academy of Art and Science, of which he was an honourable member, or at the Annual Global Forum in Baku organized by the Nizami Ganjavi International Centre – would, eventually, unerringly, focus on Romania. Having experienced his deep passion for my country, I would have wished to host him in Bucharest, to show him the places wherefrom his mentor hailed and witness his enjoyment of them, an enjoyment close to my own. Unfortunately, I never managed to extend this warm invitation, as Rajendra tragically passed away in February 2020.

I will always cherish my last few meetings with him. In March 2019, we found ourselves sharing the same stage at the 7th edition of the Global Baku Forum. Passionate not merely about Romania, but also about its international activity, Rajendra spoke at the time about a critical imperative, namely that foreign policy must correct the problems of international environment and attempt to ensure collective action on both states' and stakeholders' behalf. A visionary par excellence, Rajendra could sense connections between seemingly disparate topics, well beyond the classical aspects of the various issues being discussed. On that occasion, I remember he strongly argued in favour of

the need for concerted action at the global level to tackle impending climate change, an issue he was profoundly invested in, and one that permeated the activities of TERI, The Energy and Resources Institute he headed, and also constituted the central pivot around which revolved the Protect Our Planet Movement he launched alongside his son, who today is admirably taking his father's efforts to new heights.

Some months after our reunion in Baku, Rajendra approached me, requesting that I help him organise an event to commemorate his mentor, Nicolae Georgescu-Roegen, 25 years after his passing. I was only glad to help, and I proposed that we organise the event at the Institute for Advanced Studies in Levant Culture and Civilization. I had hoped until the last minute that I might have the opportunity of another meeting with Rajendra; however, owing to his precarious health, he was unable to travel, and could only attend the event online, through teleconferencing. I would soon be pleasantly surprised, however: as part of the event, we also exhibited several of the great Georgescu-Roegen's works at the Institute for Advanced Studies in Levant Culture and Civilization's headquarters. They were joined by a volume published by Rajendra – *International Energy Studies* – with a foreword penned by none other than Nicolae Georgescu-Roegen himself! Perusing the volume, I was amazed to see it had a dedication – signed by Rajendra – to his scholarly mentor. It was as if Rajendra was here, alongside us, and not thousands of kilometres away, in India.

Like his mentor, Rajendra was an intellectual visionary, deeply passionate about his profession and about the world that surrounded him. His entire activity was dedicated to the betterment of humankind, and he was deeply aware that even the smallest gesture can make a difference. He was a true global citizen, dedicated to lofty ideals and desirous of positive action for the betterment of all. Consistency ever followed him in all his endeavours, made manifest through the leadership positions he long held in international bodies such as the IPCC, the Intergovernmental Panel on Climate Change or The Energy and Resources Institute.

Rajendra's legacy is, today, carried forward by his son, Ash Pachauri, who has taken his father's passion for positive change and his far-reaching global initiatives to new heights. We might well consider that, through such efforts, Rajendra lives on in spirit, in order to see the ideals he spent a lifetime fighting for finally finding fruition.

Rajendra Pachauri's legacy in Mexico, Latin America, and the world

SANTIAGO CREUHERAS

Former Director General for Energy Efficiency and Sustainability, Ministry of Energy, Mexico and Chairman, International Partnership for Energy Efficiency Cooperation

The Energy and Resources Institute in India, an organization he led for more than three decades. As the chairman of IPCC, he had also accepted the Nobel Peace Prize in 2007, awarded jointly to the IPCC and Al Gore. As a tribute to his legacy, in this short piece I would like to share a few of the most remarkable and emblematic contributions towards a sustainable world Dr Pachauri shared during some of his visits to Mexico. I had the opportunity to witness his greatness, wisdom and, most important, his humbleness.

When I first met him in 2009, the main purpose of his visit to Mexico was his participation at the Global Renewable Energy Forum: 'Scaling up Renewable Energy', organized jointly by the Ministry of Energy of Mexico and UNIDO, the United Nations Industrial Development Organization. This unforgettable event was held during 7–9 October 2009 in León, Mexico. The Forum convened over 2000 participants from more than 73 countries, including 30 ministers and high-level representatives from governments, international organizations, academia, civil society, and the private sector.

The Forum highlighted the leadership required to promote renewable energy and facilitate the development of supportive policy frameworks aimed at strengthening clean energy initiatives and offered an innovative platform for proactive dialogue to strengthen inter-regional cooperation and encourage innovative multi-stakeholder partnerships aimed at scaling-up renewable energy in Mexico, Latin America, and the

rest of the world. While delivering his keynote speech, Patchy emphasized that "the cost of action to avoid the worst impacts of climate change was modest, estimated at 3% of global gross domestic product, and that mitigation would be accompanied by other benefits to health, energy security, agricultural output and employment". He noted that "innovation was needed to address energy access in developing countries, where 1.6 billion people lack access to electricity". He concluded by proposing that "Mexico and India forge an alliance to stimulate research and development, and public-private partnerships". This was the beginning of a new era in Mexico's energy sector. Patchy became an important ally in Mexico's energy transition for more than a decade supporting many initiatives.

Dr Pachauri's input motivated the urgent need to modify the global energy paradigm considering the challenges posed by climate change. He acknowledged the importance of energy efficiency in achieving the energy transition toward environmental sustainability and to meet the energy needs of the poor. At the time, he also encouraged President Calderon to diversify Mexico's energy matrix and to take advantage of Mexico's potential for renewable energy.

In 2010, the World Bank, the Inter-American Development Bank, and the Ministry of Energy of Mexico, with support from the Spanish Fund for Latin America and the Caribbean and the World Economic Forum, joined efforts again and organized the 'Global Forum on Energy Efficiency and Access'. The Forum was held during 28–29 September 2010, at the headquarters of the Ministry of Foreign Relations in Mexico City. It was an international gathering of almost 500 participants including high-level representatives from governments, international organizations, academia, civil society, and the private sector focused on sharing experiences and best practices related to the implementation of energy efficiency and energy access programs and projects, public policies, and technologies, concentrating on three central themes: norms and standards, training and awareness, and successful programs.

Patchy's vision contributed to the design and development of this event as a platform for dialogue about a sustainable energy future, creating synergies with different initiatives, such as the Energy and Climate Partnership of the Americas, the International Partnership for Energy Efficiency Cooperation (an international organization I had the privilege to serve as chairman during 2014–2016 with the support of more than 20 leading countries), and the United Nations Secretary General's Advisory Group on Energy and Climate Change.

During that event, Dr Pachauri's keynote speech acknowledged that "the world should focus on energy efficiency and ensuring access to energy". He stated, "the increase in greenhouse gases (GHGs) emissions in the twentieth century has led to an increment of 0.4 degrees Celsius in global temperatures and 17 centimeters in sea levels, as well as causing unpredictable weather events and having negative impacts on human and animal health". He asserted that this problem would require major investments setting the arena for the development of finance mechanisms. Patchy identified the sectors in which emissions could be reduced and efficiency could be increased considering buildings followed by power generation, as well as agricultural and industrial segments. With a clear mind, he emphasized that "countries had to focus on building the appropriate capacities and incentives to direct action towards proper objectives". In terms of energy access, he shared the case of the solar panels program implemented by TERI, which was providing electricity to a million homes in areas without prior access.

Later, in December 2010, Mexico hosted the 16th Conference of the Parties (COP 16) to the UNFCCC, the UN Framework Convention on Climate Change in Cancun, Quintana Roo. Dr Pachauri participated in the 'Green Solutions Forum' side event, where he noted the importance of financial resources for energy efficiency, renewable energy, and energy access investments. He encouraged Mexican authorities to commit to sustainable financing and the establishment of a green fund mainly for the financing of current energy efficiency and renewable energy activities.

During his COP 16 opening statement, he mentioned that "to hold the increase in global temperatures below 2 degrees Celsius, mitigation efforts and investments over the next 2 to 3 decades would have a large impact on opportunities to achieve lower stabilization levels. Neither adaptation nor mitigation alone can avoid all climate change impacts; however, they can complement each other and together can significantly reduce the risks of climate change". He asserted that "responding to climate change therefore involves an iterative risk management process that includes both adaptation and mitigation and takes into account climate change damages, co-benefits, sustainability, equity and attitudes". One of his most relevant contributions during the COP 16 stated that "changes in lifestyle and behavior patterns can contribute to climate change mitigation across all sectors. Policies that provide a real or implicit price of carbon could create incentives for producers and consumers to significantly invest in low GHG products, technologies and processes". His contributions opened a new path for policy development considering the relevance of behavior at all levels within the energy sector.

In October 2013, during President Enrique Pena-Nieto's administration, Mexico hosted the 'Green Solutions Forum' at the World Trade Center in Cuernavaca, Morelos. Dr Pachauri trusted the country's commitment to sustainability once again and contributed as a keynote speaker discussing the importance of the climate change challenge toward achieving sustainable development. Patchy shared global data on climate change and the impact of GHGs in the global arena. He commended Mexico's authorities for the policies on mitigation and adaptation as he had suggested during the COP 16 in Cancun. Having reliable data became one of the priorities in the sustainability arena.

In September 2017, Mexico hosted 'The Dialogues for the Future of Energy Mexico 2017: DEMEX' as a platform to discuss, analyze, and reflect on the trends and scenarios of the future of energy, as well as promoting dialogue between key players in the sector at a global level and sharing the experiences of different countries in their efforts to move towards an energy transition. This is possibly the greatest energy transition event held in Mexico. Almost 5000 participants from all over the world joined this forum. In his keynote speech, Dr Pachauri sought to raise climate change awareness among the youth community through his POP, the Protect Our Planet movement, which, still alive, aims to empower the youth to participate actively in addressing issues of climate change faced by our planet.

I had planned to join Patchy in Durango, Mexico, in March 2020 with Adrian Fernandez, Dolores Barrientos, Adriana Lobo, Daniel Chacon, Martha Delgado, and other friends. Unexpectedly, a couple of months earlier, Patchy surprised us with a surgery and left us without having the opportunity to see him in person again. Nevertheless, the WSDF, the World Sustainable Development Forum, was held, and it convened almost 30 former and current heads of state as well as authorities from different countries. Additionally, more than 2000 people joined the event including a great number of participants from the youth community. It was an opportunity to honor him, to remember him, to praise

him for his leading capacity to create and co-create sustainable development initiatives, frameworks, and policies.

During his many visits to Mexico, Dr Pachauri established a robust legacy with an impact in Mexico, Latin America, and the world. Patchy was a well-rounded and kind gentleman. His assertive and wise contributions have become the basis for many national policies. Some of us had the opportunity to learn from him, to adopt his ideas, to share his vision of a sustainable world, and to implement many of his initiatives. Unfortunately, he left us much earlier than any of us could have ever expected. However, his love for the environment, his knowledge to expand energy transitions as well as his commitment to motivate the forthcoming generations will always be alive in our hearts.

A restless soul

P R DASGUPTA

A former IAS officer and a former TERI official

Passion, often bordering on restlessness. Like all energetic people, he would not rest until whatever issue he was grappling with was resolved up to his satisfaction. His grasp over subjects, as diverse as they could be, was amazing and his knowledge on each of these subjects was nothing short of encyclopaedic. This was possibly because he had a childlike curiosity and a voracious appetite for knowledge and absorption.

There are several colleagues of Dr Pachauri who have known him much more intimately and for much longer than I have. I have seen him closely as an institution builder for only about a decade, when he asked me to take charge of Bangalore International Centre, which he had co-founded with several other intellectuals from Delhi and Bangalore. He chose me solely on the basis of faith and trust in me. Later on, as I came to know from many colleagues from TERI, it was his enormous faith and trust in their capabilities that won him their steadfast loyalty. He knew how to build his team and how to infuse the members of the team with confidence, initiative, and innovation.

His chats with me about the vision and the mission of Bangalore International Centre were comprehensive, but the working details of the fledgling institution were entirely left to me. I had complete discretion in picking my own team to get the job done. He told me that I was accountable to the board of trustees, but as long as I was able to produce results, he would back me to the hilt and would not permit anyone to interfere with me or my work. This exhilarating freedom from interference (a somewhat unusual experience for a former bureaucrat like me) along with the joy of building up an institution almost brick-by-brick made me work with all the possible energy I could muster at the age of 66 years. He kept his word and did not permit anybody, trustee or otherwise, to interfere with my work. In turn, I kept him scrupulously advised about how I was going on with my work. There were sometimes mild suggestions about possible alternatives which could be considered. However, the final decision on those suggestions had to be mine. The final touchstone of course was whether the decisions taken by me fetched the

expected returns. And when they did, he was effusive and fulsome in his praise. And when they didn't, he took the blame on himself before the trustees. This itself placed a much higher responsibility on the recipient of his trust to perform better and show better results. It is this which finally led to the emergence of Bangalore International Centre as a major intellectual and cultural hub in Bangalore. Sadly, he did not see this efflorescence during his lifetime.

People generally say "Rest in Peace" when a soul departs the body. My feeling is that the soul of Dr Pachauri can never rest in peace until it builds more and better institutions up there.

An order of magnitude higher

RICHARD B DASHER

Director, US-Asia Technology Management Center, Stanford University

To early August 2018, a business friend invited me to have breakfast in Palo Alto, California, with someone named Dr R K Pachauri, who went by the nickname 'Patchy'. When I met Patchy at the table, I wondered what the conversation would be about. For over 25 years at Stanford University, I had led the US—Asia Technology Management Center, an externally funded program dedicated to research, education, and public outreach about topics ranging from international entrepreneurship to the impact of new technologies on industry structure. We were a small center, but one of the perks of my job was meeting people from around the world who represented organizations ranging from still-in-the-garage startup companies to university presidents, cabinet ministers, and titans of industry. I wondered which category this unassuming and gentle person across the table fits into, especially since when he started talking about a brand-new nonprofit, the WSDF, the World Sustainable Development Forum.

Even before the second cup of coffee, I learned that I was in the presence of a kind of greatness I had never met in person before. Patchy's ideals for the goals of WSDF were an order of magnitude higher than those of every other influencer I had met, but he also soon convinced me that he was not a dreamy visionary. He was a mobilizer. Patchy had already engaged a cloud of supporters from an amazing array of luminaries, and from experience I knew how difficult it is even just to get through to people like former California governors, heads of state, movie stars, and the secretary-general of the United Nations. Patchy had huge plans that were inspiring, and although he stayed low-key and unassuming throughout our meeting, he convinced me that with his leadership they were feasible. It is true that I have always cared a great deal about sustainability.... By the end of the breakfast, I was a bit stunned and more than a little convinced that Patchy was probably thinking that I was a small fish who wouldn't be of much help to him in his quest. I expected a nice follow-up note that would end our conversation.

Patchy, however, soon wrote me an email with the following sentence in the first paragraph:

"Let me now say what a delight it has been to meet you. I found our conversation most stimulating, and I am sure given all that you have been able to accomplish and the global vision that you possess make it a huge asset for me to seek your partnership in doing together what we both believe in."

Within a couple of weeks, Patchy invited me to join the WSDF board! Here was someone who looked beyond the size of the budget I controlled and my own small contributions to various causes in the past. As you can tell, he had a way of making you feel as though you were the most important person he was talking with. Needless to say, I immediately accepted.

From that time, I have been delighted to see the amazing influence that Patchy's approach has had. It has been an incredible honor to serve on the WSDF board and try to contribute to its mission – Patchy's mission – which every day is more clearly revealed as essential to the survival of humanity and the progress of a model of civilization built on civility. Patchy was taken from us all too soon, but our correct response is to redouble our commitment to achieve the goals he set out for us.

The unforgettable Dr Pachauri

MARTHA DELGADO

Former Minister of the Environment of Mexico City and Undersecretary for Multilateral Affairs and Human Rights at the Mexican Ministry of Foreign Affairs

Nothing is more powerful than an idea whose time has come. Victor Hugo

Back in 2006, when I served as the Secretary of the Environment of Mexico City, my team and I were very conscious that if we aimed to be on the right pathway to mitigate greenhouse gases emissions, we urgently needed a climate action plan. First of its kind in Mexico, with hard work, we delivered the PACCM, the Climate Action Program of Mexico City 2008–2012, which promoted actions and projects based on the best available science, with the double goal of reducing the environmental, social, and economic consequences of climate change.

Thanks to this plan, the city reported a reduction of 7711 000 tonnes in its emissions of carbon dioxide into the atmosphere. In August 2012, Dr Rajendra Kumar Pachauri came to Mexico City to evaluate the plan and share his knowledge on best practices. I was personally moved when he recognized our local leadership, for which he spoke in favor and expressed that Mexico City's experience could serve as an example to other cities.

Of course, everyone knew him as an iconic figure, a great mind that led the IPCC team of experts that received the 2007 Nobel Peace Prize. In real life he was also a humble, noble, and committed man, a researcher looking for options with the help of science to make a just transition.

I like to think he saw our great commitment to society and to environment protection. We made everything possible to make him feel at home and I believe we did it since we had him coming to visit almost every year for academic and scientific purposes.

He publicly said his own aspiration was to "see Mexico develop as a model of sustainable development and fight for climate change." He emphasized that it is extremely important

for Mexico to have a pattern by which to grow and develop, and unlock the potential to develop cooperative programs with other countries in Latin America.

I was fortunate enough to meet him on several occasions. I realized we also shared similar thoughts: perhaps besides our common conscience and social sense, we both knew youth can bring action and change. He inspired young people to work to protect their future by fighting climate change to ensure that "the only planet we have" becomes a place where we all can live. He truly believed we have a future and the power to make it better with our own hands.

It was not unusual to see him walking down the halls of major international events with a smile on his face and a warm welcome gesture that invited you to talk. Mexico was a friendly country, and Dr Rajendra Kumar Pachauri – Pachy for us who were close – became a friend. We miss him, but he is not gone: his ideas and his legacy continue to resonate strongly.

From environmental problems in Bangladesh to global climate change: Tribute to Rajendra Pachauri

LUDO DIELS

Professor Emeritus at Antwerp University and former Senior Advisor, Sustainable Chemistry, VITO, Belgium

Bangladesh is a country in the delta of the Ganges and the Brahmaputra, highly populated (more than 160 million people), and vulnerable to annual flooding, which is now more frequent because of climate change. On top of that, the country's population depends a great deal on only two industries, namely textiles and leather, both being low-income and labor-intensive industries. It was exactly for these industries that I was conducting, with my VITO colleagues and Prof. Karim Rezaul at Dhaka University, a European project on soil remediation. The project focused on training the Bangladeshis how to clean up the sites of Tejgaon (textile) and Hazaribagh (tanneries) as well as the banks of the Buriganga. This was in November 2007.

On my way to Brussels from Dhaka, I made a stop in Delhi to visit my post-doc Deepak Pant (working on bio-electrochemistry), who had shortly returned to TERI, The Energy and Resources Institute, in Delhi, an institute with the same environment and climate ambitions as VITO. As I arrived in Delhi, I learnt that the famous Dr R K Pachauri (who had only recently received, on behalf of the organization he chaired, namely the Intergovernmental Panel on Climate Change, the Nobel Peace prize, which the IPCC shared with Al Gore) was in his office in TERI. Dr Pachauri was always ready to meet new people and to share his concern about climate change. So, although I had no appointment, his secretary confirmed that I could wait and he would see me. I did not know my position in the queue and as we know, Pachauri made time for everyone. Unfortunately, after a long wait, I had to leave without meeting him because I had to catch my flight.

But my wait bore fruit a year later. Because VITO and TERI shared a common concern, namely climate change, we could meet, together with Dirk Fransaer (the director of VITO) in December 2008 at the Energy Forum (KVIV) in Brussels, on invitation by King Albert II of Belgium. Indeed such was the strength of Rajendra, bringing together powerful persons with shared concern about climate change. Together they could move the world towards sustainable development. VITO and TERI became and continue to be strong partners in the fight against climate change (see the tribute by Dirk Fransaer in this volume).

Indeed, energizing and moving people in a transition was the underlying theme of all his speeches and his work at the IPCC. This was also recognized by my university, in Antwerp. Together with my colleague Prof. Dr Patrick Meire we invited Pachauri to receive a doctorate degree honoris causa. It was not just an official ceremony, but in the style of Dr Pachauri, we organized a master class with our students (the auditorium was too small) to inspire the transformation of concern into action. It is not surprising that several years later the youth have taken to the streets across the world to demand real and effective measures against climate change. It is also not surprising that five years later Dr Pachauri founded the POP, the Protect Our Planet movement for youngsters, a movement alive and kicking as never before. This inspired Antwerp University in its strategy to set up citizens' science projects where citizens and children are actively involved in large projects related to the environment and climate. Also, the Shift project was created, which is a carbon think tank for students from Belgian universities. Scientists4Climate gathers scientists from universities and institutes across Belgium who are committed to answer the call by the youth to let them inherit a sustainable and livable world.

On a regular basis I met Dr Pachauri in Delhi or somewhere else in the world and every time he brought me into contact with high-level people and with ordinary people from all over the world. Every time we had enthusiastic discussions to set up projects in India or elsewhere. At the DSDS, the Delhi Sustainable Development Summit, we organized satellite meetings on wastewater treatment and the development of bio-economy in India. We see now that India is moving strongly towards better water treatment. We work together, for example, in the Pavitra Ganga project to develop a wastewater treatment process, namely ANDICOS, providing water for re-use, energy, and fertilizers. (ANDICOSTM stands for anaerobic digestion by combining organic waste and sewage.) Antwerp University has a collaborative program with the Indian Institute of Technology in Kanpur concerning water quality of the river Ganges and to support water treatment. Indeed, young students spend some time at IIT Kanpur to set up a strong collaboration with the final goal to transform the holy Ganges into a naturally resilient and clean river. We also see that bio-economy is strongly on the move to support rural India with many initiatives on biofuel production.

Speaking about bio-economy, Dr Pachauri got involved in the initiative, set up by the young German Felix Finkbeiner with the support of the Prince of Monaco, Plant a Trillion Trees, that is now further organized by the United Nations. I saw how Dr Pachauri could stimulate the young secondary school pupils who fully organized the meeting at the Grimaldi Forum in Monaco. And let us not forget that the first large initiative on afforestation was taken by the Nobel Peace Prize Laureate Wangari Maathai, who was a good friend of Dr Pachauri. She inspired women in Africa to set up the Green Belt. This inspired me, as a chemist and with opportunity to be involved in bio-economy

initiatives worldwide, to work on sustainable use of wood as replacement for fossil-fuels-based materials.

Although Dr Pachauri was extremely active, the change he created was not the result obtained by him alone. He was setting the scene and inspiring others to make that change. That is exactly what we need in this battle against climate change. We need millions of people inspired to make the change, millions of people to show, by all kinds of experiments, that change is possible.

Dear Dr Pachauri, dear Patchy, we will always stay inspired by your example and I hope to add a sparkle to your work on the global change we need in this Decade of Action to become a sustainable planet and an inclusive society.

Patchy: a true friend

ADRIAN FERNANDEZ

Chief Executive Officer, Mexican Climate Initiative

e looked very serious from a distance, almost intimidating. That was the first impression I got from my country's delegation seat when I saw Patchy for the first time in the large plenary room. It was around the year 2000 in one of those endless meetings he chaired for the IPCC, the Intergovernmental Panel on Climate Change. After a few days, that figure was still there. The same level of concentration and commitment. Truly interested about every comment, every proposal from every single delegate. Patient but firm, tireless. He could work round the clock and all night, day after day. He did it at that meeting, he did it at dozens of necessary meetings with scientists, non-governmental organizations, ministers, and heads of state. Working for you and me, working for all, working for the planet. Patchy's work and life were always a good definition of generosity.

It is very difficult to find a leader who is at the same time an outstanding diplomat and a remarkable scientist. Many scientists are normally devoted exclusively to their research, teaching, and other academic activities with little interest or motivation to think about additional ways (beyond university walls) in which they can join others to better the world, to help others to improve their lives. Future generations to come will recognize and value a man who spent decades working hard to help others and protect the environment.

Patchy was ubiquitous. In addition to his admirable work shepherding the IPCC community for more than a decade, he was an active participant as a keynote speaker, high-level panelist, and also a lecturer. Patchy always found time to make presentations to students and youth groups in general. It is difficult to find a better teacher and, more important, difficult to find a speaker who can shake and motivate younger generations, encouraging them to be active participants in the fight against climate change.

Patchy always led by example. Nobody had more energy and was able to handle effectively so many activities and tasks at the same time than him. Seminars, workshops, and other high-level international events were possible year after year because he was a relentless force. He was very good at twisting people's arms to participate and share

their knowledge and even better to coordinate himself the important matters, to make sure that things were done right and on time. He was not just somebody who delivered instructions and delegated tasks to those around him, not at all. He was always the first to offer the team to 'do it himself'. No task or duty was unimportant enough to be disregarded by Patchy.

A citizen of the world with friends in every town—this is a phrase that accurately describes one of the most remarkable characteristics of Patchy. Those like myself who had the privilege of spending time with him were able to witness how humble and accommodating Patchy really was. He was always down to earth. He didn't need to look for or ask for recognition from others. He never talked about superfluous or fashionable stuff. A true friend who cared about us and our families.

I will finish this note with an anecdote. About a couple of years before he passed away, we took a quick break between meetings around the city and stopped by my place for a quick lunch. We found some vegetables and pasta in the fridge from a couple of days before. After having our meal, for some reason we started talking about music that we like. Since our laptops were already open on the small kitchen table where we had lunch, we started looking up at some songs on YouTube. He showed me and played his favorite song: 'Come Share the Wine', sang by Al Martino. When I heard the song, I understood immediately why Patchy liked it. In fact, I think that this song reflects very well his character and something he nurtured every day as very few people do—true friendship.

Here are a few strophes from the song. Lyrics by M. Kunze, D. Black Jrugens, W. Uebelherr.

Come share the wine

The streets were dark and the night was cold and yet I walk alone I saw the lights of a cozy place with lanterns all aglow Somebody cried, "Don't wait outside, come say, hello" Come share the wine

No one is a stranger here, they're your friends and mine
Everyone's your brother, we're a long way from home
And we need each other, have no fear, you're welcome here
The world seems colder when you're a stranger from a foreign land
You need to feel that someone cares and that they understand
Many a tear would disappear if we joined hands
Come share the wine

No one is a stranger here, they're your friends and mine Everyone's your brother, we're a long way from home And we need each other, have no fear, you're welcome here

Where are your students?

ANDREAS FORSTHÖVEL

Teacher for Physical Education, Geography and Mathematics at Julius-Stursberg-Gymnasium, Neukirchen-Vluyn (Germany)

Lunch break on the first day of the conference Future Energy Forum, part of the Expo World Exhibition in the Kazakhstan capital. People in suits and business dresses talking with finger food in their hands about the climate change challenge. I think, hopefully, that they do talk also about the gap between wish and reality of Kazakhstan's public image transported to the expo, of being one of the future's top players as far as producing and using green energy is concerned. My 17 students from a regular German secondary school and I (their geography teacher), who has been crazy enough to achieve a self-managed class trip to Kazakhstan, do know better. Two days before it was us being the first school class ever, touring inside the whole of the biggest opencast coalmine in the world, in Karaganda, inside the Kazakhstan steppe. Trying to behave normally in my more or less businesslike look, we talk to Prof. Dr Janssen, a German researcher in engineering, whom I contacted before to ask for a meeting with my class. Five minutes later he guides me to some kind of a VIP enclosure and briefs me shortly on the way: Dr Pachauri – UN – IPCC! He ends just in time, when we are in front of him.

Two things strike me immediately that this person in front of me must be someone with a special character. First, there was no need to worry anymore that my clothing was not the newest business fashion style; this man definitely does not need to care about wearing the latest trendy clothes. Second, the fact that he leaves the area fully packed with experts with me ("Where are your students?") to meet my class speaks for itself.

My students hand over a booklet about our educational trip with the note that our contact details are given at the end of the booklet.

Four months later, in September 2017, the former IPCC Chairman stands in the conference hall of the Julius Stursberg gymnasium in Neukirchen-Vluyn (Germany), holding a lecture for my teaching colleagues and the 300 students of the upper grades.

The evening before I collected him from the airport. All passengers had passed through the exit door long ago, but no Dr Pachauri. A call to Ash does not go through,

but suddenly a voice speaks to me from behind. Sitting in a wheelchair and being guided by a serviceperson from the airport, he says sorry for being late. Falling down the stairs before the flight had led to his spending a sleepless night.

Without any sign of having had no sleep, the presentation in the school's conference hall is a success and ends with an appeal to the youth to get involved for climate protection. The reason? "Because my generation failed."

It is the week that the POP Movement Team Germany gets established and starts working. Making fast progress leads to the participation in the first World Sustainable Development Forum in Mexico City a year later. It is now the other way around; being invited by Patchy, young students are now telling the adults what should be done.

Rajendra Kumar Pachauri is late, but the POP movement idea is alive, more than ever.

In memory of Dr R K Pachauri

DIRK FRANSAER

Managing Director, VITO, Flemish Institute for Technological Research, Belgium

In December of 2007, Dr R K Pachauri, on behalf of IPCC, the Intergovernmental Panel on Climate Change, together with the former vice president of USA, Al Gore Jr., received the Nobel Peace prize 2007 "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change."

Slightly over a year later, in early 2009, I had my first encounter with Dr Pachauri in Belgium. But Dr Pachauri, Patchy as we were later allowed to call him, was also the head and the leading figure of TERI, The Energy and Resources Institute in Delhi, focused on sustainable development, as is VITO.

It was in the spirit of the undertakings of IPCC and TERI, the raising of awareness about the seriousness of the issue at hand, human involvement in it, and what could be done to counteract the dire consequences that our meetings took place. And as a research organization, VITO had to be in this effort together with TERI.

Since that first encounter we met multiple times, in Belgium, India, or USA. I invited Patchy several times to Belgium, as a keynote speaker and as head of TERI. Some of TERI's collaborators have become friends of VITO and share good personal contacts. From that first meeting it was obvious that he was a man in a league of his own, with his words, his insights, and his sheer presence.

TERI and IPCC were both his large undertakings in life and were strongly intertwined in his vision of a more sustainable world. It was in this vision that he started in 2000 the DSDS, the Delhi Sustainable Development Summit. It attracted worldwide attention and emerged as one of the foremost fora on issues related to global sustainability. Patchy and TERI succeeded in creating a remarkable atmosphere at DSDS where each and every participant felt involved and co-created a new, sustainable world in which each participant had access to all the high-level decision-makers and thought leaders that took the stage.

Following our first encounter, I attended DSDS in February 2010, its 10th anniversary, and a truly remarkable eye-opening conference. And on the flight to Delhi I was in excellent company. Dr Gro Harlem Brundtland, former Director-General of the World Health Organization, from 1998 to 2003, was sitting behind me, with her husband. She is probably best known as the chair of the so-called Brundtland Commission which presented the Brundtland Report on sustainable development. And all Norwegian passengers on that flight from Frankfurt to Delhi came to pay their respects to their former prime minister. And on the return flight we had the company of another DSDS participant, the former president of Chili, Mr Ricardo Lagos. Both Mr Lagos and Dr Brundtland, together with Han Seung-soo, had been named three years before as Special Envoys on Climate Change by the then UN Secretary-General Ban Ki-moon.

Naturally, since then, yearly attendance at DSDS was a highly appreciated and motivating point on my agenda. It allowed meetings with Patchy and other guests and attendees. I was invited to give a keynote address at the conference and VITO and TERI came to work much closer together. My respect for TERI employees grew further over the course of the meetings leading to lasting relations with several close collaborators of Patchy and the people who later on were to succeed him: Dr Ajay Mathur and Dr Vibha Dhawan.

As part of our management cycle, VITO organizes regular strategic research meetings with external auditors to assess the progress of work being done and to receive advice on the way forward. We organized one of these strategic research meetings on the topic of sustainability in Delhi at TERI with valuable inputs from Patchy and Dr Leena Srivastava. Dr Srivastava became a household name at VITO, with her son completing his doctoral work at VITO in collaboration with the University of Antwerp, —the same university that had honored Patchy by awarding him in 2010 an honorary doctorate for general merit. In his acceptance speech, he drew attention to the fact that global warming may lead to increased stress on our water supplies and water shortages may in turn lead to lower food production, resulting in undernourishment in certain regions. Illnesses may spread more easily, and safety will be reduced due to diverse weather phenomena and rising sea levels. Global warming will also have an irreversible impact on biodiversity. These words are even more true today than twelve years ago as Europe, including Flanders, have seen severe draught situations in recent years during the summer months with record high temperatures.

Patchy also organized with TERI and Yale University the US–India Energy Partnership Summit. The intervention of Al Gore at the 4th summit in May 2013 can still be found on YouTube and his Eve of Hope address, "Crisis of Environment is a Crisis of Democracy and Capitalism", still sounds unreassuringly accurate – "American democracy is hacked, capitalism has been hacked" – and passionate. The summit also had other famous interventions and was in support of a TERI initiative, namely LaBL, short for Light a Billion Lives, an outstanding initiative and effort to make full use of renewable energy to light houses in rural India and Africa and to improve indoor air quality by doing away with soot, a consequence of burning biomass in closed spaces for cooking.

Over the years, especially after his departure from TERI, Dr Pachauri continued to involve himself closely with all that happened in the world in the fight against climate change and the route to sustainability. We were invited to his home several times to discuss with some of his other friends and for dinner. The meetings were always very pleasant and enlightening.

VITO itself, between 2008 and 2016, organized five i-SUP conferences: the international conference for industry and innovative sustainable production, complemented in 2012 with BSDS, the Brussels Sustainable Development Summit. Patchy paid us numerous visits and delivered inspiring keynote speeches at our conferences. Also HRH Prince Philip of Belgium, the later King of Belgium, many EU commissioners, and the President of the European Commission—all came to attend the conferences and discuss with Patchy and other invited guests.

As the UN Sustainable Development Goals were accepted in 2015, VITO and TERI together with several other global leading research institutes have been organizing every year since 2017 the G-STIC conference, the Global Sustainable Technology and Innovation Community conference. This is a direct consequence of my relationship with Dr Pachauri. He introduced Mrs Veerle Vandeweerd to VITO and this sparked the idea of the present series of G-STIC conferences and the attendance at the Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals convened by the UN in New York.

And so there is a direct link from Dr R K Pachauri, TERI, and DSDS not only to the present conference in India on the World Sustainable Development Summit but also to G-STIC and its relationship with helping to realize the SDGs by 2030.

Dear Dr R K Pachauri

FUN GAO

Founder and CEO, UVALUEX

Tasudhaiva kutumbakam'. When I saw this concept for the first time while surfing the internet, a beam of light seemed to enter into my heart.

At that time, it was raining heavily, with dark clouds outside the window. I sat in a cafe and stared out of the window, watching cars coming and going and pedestrians walking in the rain, and savoring this concept in detail. "What kind of person is this? Why does it convey such a great idea of love? Do I and the pedestrian outside the window also belong to this big family?" These questions lingered in my heart, and I continued to watch.

'IPCC Chairman', 'Climate Change', 'Nobel Peace Prize', 'Lighting a Billion Lives' Project—for me, who was engaged in cultural exchange activities in countries along the Silk Road in 2015, these keywords were both familiar and unfamiliar. That was the first time I learned about the impact of climate change on us, on biodiversity, and on the earth. It looked like the heavy rain outside the window, the smog in recent years, and natural disasters affect climate change and are also affected by climate change. At that time, in my opinion, it was like two forces interacting. We give nature a force, and nature will give us a reaction force. The force is somewhat delayed, but it will never be absent. Instead, it will be more strongly fed back to humans in different forms.

There is such an authoritative institution [the IPCC, or the Intergovernmental Panel on Climate Change] in the world that specializes in climate change research. There is such a person who had dedicated his life to research of climate change and led that institution to win the Nobel Peace Prize. It is also this person who initiated the 'Lighting a Billion Lives' plan. His selfless dedication protects people scattered around the world who have never met before. What a powerful inner strength, what a great sense of mission, what a powerful belief is this. People, one person is one world.

The rain outside the window stopped. When I walked out of the cafe, a beam of sunlight came out of the clouds and shone on my face. I seemed to feel the strength, mission, and strong faith.

'Vasudhaiva kutumbakam'. "It's him, it's him, it's him, Dr R K Pachauri." I had seen a picture of him on the internet two years ago. The hair and beard are connected together,

the bridge of the nose is strong, and the three-dimensional silhouette. This image of a man with kindness in his resolute eyes is imprinted on my heart.

The Buddha said, "Looking back 500 times in the previous life can one encounter in this life."

2017 was a landmark year in my life:

1/My first child was born.

2/ For the first time, I took the initiative to lead a team to plan and participate in an overseas international event.

3/ For the first time, I launched a global initiative, the 'New Peace' Initiative.

4/ The important thing is: I met Dr R K Pachauri for the first time.

Encountering Dr R K Pachauri was my biggest gain during the 2017 Astana World Expo, when I led a team to Kazakhstan.

That year, we joined forces with starry sky photography artists from 56 countries along the Silk Road to jointly organize the Silk Road Starry Sky Photography Art Exhibition, using photography, video, virtual reality, and other technologies to three-dimensionally display the landmark buildings of different countries under the same starry sky. Scenery, customs, express our common love for nature, cultural exchanges, and pursuit of peace.

Without knowing it, encountering Dr Pachauri at an international airport in another country is like the feat of looking back 500 times in the previous life to this life. The emotions inside are exciting and complicated, but the actions are honest. I still remember clearly that during our first exchange, Dr Pachauri's enthusiasm, kindness, and thoughts on young people in responding to climate change deeply affected me. He not only shared with me the important impact of the World Sustainable Development Forum in promoting the realization of the United Nations 2030 Sustainable Development Goals and the Paris Agreement on Climate Change but also talked about the role of the POP, the Protect Our Planet movement among young people around the world.

When I heard him say 'Vasudhaiva kutumbakam' for the first time, I felt as if I was being illuminated from inside out, as if the light in my heart was radiating to every corner of my body. This made me even more determined to launch the New Peace Initiative. New peace is a superimposed state of peace; in the past, peace was between human beings; now, there is peace between humans and nature; in the future, the new peace will be among human beings, between them and nature, and between them and Artificial Intelligence as the representative of a new species which will be a product of the human–computer combination and the unknown species from extraterrestrial civilization. Co-evolution is no state of new war.

Thank you, Dr Pachauri, for inviting us to join this big family. Become a ray of light, illuminating the self while illuminating the path of others.

'Vasudhaiva kutumbakam'. Some people are alive but he is already dead; some people are dead, in fact he is still alive. The rivers in nature not only evolved human species, but also gave birth to human civilization.

The four ancient civilizations actually correspond to the four regions where the first large-scale human civilizations were born: the Mesopotamia, the Nile River, the Indus River, and the Yellow River.

The Yellow River in China and the Ganges River in India both come from the same origin, the Qinghai–Tibet Plateau. In order to write this letter, I came here, in a place where China borders India—Tibet.

"I sincerely invite you to join the 'New Peace' organizing committee as its honorary president and chief scientist to lead our global team of young scientists to the future, to build a better earth home for our ecological environment and future generations", I wrote in an email to Dr Pachauri.

As the former chairman of the IPCC, Dr Pachauri not only led the organization to win the Nobel Peace Prize in 2007 but also led a team of thousands of people to release the '1.5 °C' report. If the global temperature rises by 2 °C from the pre-industrial level, Greenland's ice sheet will completely melt, one-third of the world's animals will become extinct, and rice production will be reduced in large areas. After the water level rises, some large Asian deltas, such as Shanghai, Dhaka, Kolkata and other areas become very vulnerable.

Temperatures on the Qinghai–Tibet Plateau are rising four times faster than those in other regions in China, and glaciers are retreating faster than in any other region of the world. In the short term, this will cause the lake to expand and bring floods and mudslides. In the long run, glaciers are an important lifeline of Asian rivers, including the Yellow River in China, the Yangtze River, the Ganges River in India, and the Mekong River in South East Asia. Once they disappear, billions of lives in Asia will be at risk.

Dr Pachauri replied by email.

"Dear Mr FunGao,

Thank you very much for your email of October 30, 2019.

I have gone through the attachment with your email, and it is extremely impressive.

I believe the world has very little time to deal with climate change and I am very happy that you are planning a "New Peace" initiative which involves peace between people and nature. I am writing a book on Mahatma Gandhi and his view of nature as well as other forms of life. He warned us over a 100 years ago of what we are doing to the earth's natural resources and the beauty of nature.

I am honoured that you would want me to be Honorary President and Chief Scientist for your programme, and I am of course very happy to join hands with you. My only suggestion would be that you may also consider the POP (Protect Our Planet) Movement as a partner in your efforts. We launched the POP Movement on Earth Day 2016, and it is a program which is growing in various parts of the world. It would be wonderful for us to join hands with you in your efforts. I am providing the website address of the POP Movement (https://thepopmovement.org) to study what we have been able to do.

Please let me know how we might take your plans forward. I am sure your efforts will require a substantial amount of funding, which I hope several donors will be able to provide."

In order to promote the concept of 'Vasudhaiva kutumbakam', inherit the wisdom of Mahatma Gandhi, and fulfill Dr Pachauri's wish, we will unite with youth representatives and organizations from different countries such as POP to jointly launch the 'Human and Nature Harmonious Symbiosis Declaration' in 2021. Deepen the promotion of global regional ecological protection and high-quality development represented by the Qinghai–Tibet Plateau, and make greater contributions to the transformation of a zero-carbon society and the realization of the United Nations 2030 Sustainable Development Goals and the Paris Agreement.

Met You

Met you.

It's like the eagle met the sky;

the yak met the grassland;

the whale met the sea.

Met you.

Like a lost child returned home;

Like a withered flower bloom again;

Like the Gobi desert become a green ocean.

Met you.

The earth will be

Less trash; one more green warrior;

Less carbon emissions, one more environmental guard;

Less killing and hunting, one more young man to maintain peace.

Met You, Dr Pachauri.

Dr R K Pachauri as I knew him

GSGILL

IAS (Retd.), Distinguished Advisor, TERI and Former Additional Chief Secretary, Govt of Maharashtra

efore meeting Dr R K Pachauri in 2009, I had known him because of his multiple accomplishments in building institutions and steering them to excellence in the chosen field. Two such institutions – TERI, The Energy and Resources Institute, at the national level and IPCC, the Intergovernmental Panel on Climate Change, at the international level - stand out in particular. I was well briefed by Dr A Parasnis, who had been recently designated at that time by TERI to set up TERI's Western Regional Centre in Mumbai (good old Bombay). Mumbai, due to its natural, topographical, and demographic uniqueness, is both a problem and a solution packed in one. The problem of overpopulation and limited land leads to inappropriate housing, restricted mobility, and only a few square feet of open space per capita; a solution is possible because of its large talent pool and the possibility to leverage its status of financial capital of the country. TERI's Western Regional Centre, was a well-thought-out effort to tackle this 'problemsolution' optimally. At that time, I was the Managing Director and Vice-Chairman of CIDCO (City and Industrial Development Corporation, a Government of Maharashtra undertaking). Dr Pachauri's vision, and efforts of TERI WRC staff led by Dr Parasnis, made the WRC a good organization for CIDCO to bet upon as a source of knowledge in all environmental and development issues particularly where a conflict between the two was imminent. We were able to launch many projects including one on rejuvenation of a dead inland water body to make it an environment resource centre and a recreation area for the city and another on reduction of the environmental impact of a proposed golf course through scientific intervention. The high points were the declaration of the city of Navi Mumbai as eco-city by the Government of Maharashtra and shaping the creation of a permanent centre of excellence in environmental studies in the city.

In the international arena, Dr Pachauri led the formulation and presentation of the Fourth Assessment Report of the IPCC, which won the recognition at the Nobel Prize Committee. The organization was honoured with the Nobel Peace Prize for 2007. It was also a recognition of Dr Pachauri's diplomatic talent to reconcile diverging views representing diverse national interests. There will always be a few honourable alternative views though, and that report had its share. But as things turned out, the Fourth Assessment Report was surely a foreteller of the severest episodes of climate excesses, particularly in the Himalayan Range.

Before concluding this write-up about my dear friend Dr Pachauri, I will mention another facet of his organizational skills. The Delhi Sustainable Development Summit, now rechristened the World Sustainable Development Summit, was able to draw the brightest of the scientific community and the most active from the political community. Many heads of states graced each edition of this arguably most important world event on climate change.

His strong understanding of the public policy system coupled with his highly analytical talent helped him, and consequently the institutions he steered, to achieve excellence.

The creator of the Protect Our Planet Movement and his selection of México to launch it

ELEONORA ISUNZA GUTIÉRREZ

Cinema Planeta, México

LUIS TAMAYO PÉREZ

Facultad de Psicología, Universidad Autónoma de Querétaro, México

ANTONIO SARMIENTO GALÁN

Instituto de Matemáticas, Universidad Nacional Autónoma de México, Mexico

Patchy, as we eventually got used to call him, finally said, "Yes, I shall come to Cuernavaca for the Environmental Film Festival." That was the nth time we had invited him to visit us and get familiar with the festival organized by Cinema Planeta and frankly, we did not know how to start organizing the activities around his visit. Our lack of imagination on how to deal with him, whom we imagined as someone special, quickly proved to be unimportant when, going from the airport to his hotel in México City, he started joking about the very many things our cultures shared; he showed us he really was a special man, so special that nobody could guess the kind of person we were discussing with.

One of his favourite stories was on how to answer when questioned about the contribution of Indian culture to the knowledge of humankind: naught, which is both nothing, and zero, one of the very many great conceptual contributions of his culture to the mathematics of the Western world. When we pointed out to him that the achievement was not unique and mentioned that also the Mayan culture had independently created such a useful concept, he promised to modify his telling of the story and include

the information he had just acknowledged. That was Patchy: simple, joyful, witty, knowledgeable, generous, and willing to admit he still had a lot to add to what he knew about México and its varied cultures, yes, in plural—another aspect that México shares with India since both nations were formed by unifying various ethnic groups and their diverse cultures, so diverse that the only way they could discuss when in parliamentary meetings was using the language of the conqueror; parliament itself was also another alien structure of the newly imposed governing system on both nascent nations.

One day during his visit, which broke all previous records in terms of him staying put in one single place, he explained to us his idea on how youngsters had to learn about the enormous challenge before them, get prepared, and lead the change to stop and revert global warming by mobilizing a great many of them, creating a movement without borders and government-free; and then, during a brief pause, he suddenly asked, "Shall we launch the Protect Our Planet Movement in México?" So simple an action is how a great and successful movement was created on 5 June 2016. It must be said that he was talking to a group where there was only one person whose age could qualify him as being close to a youngster: his son, Ash, who, four years later, would become the leader of the Protect Our Planet Movement with the same vigour and determination that Patchy had been using to conduct the Movement and encourage us all to follow in his steps.

Another aspect of culture we share with a great part of India is food but with a huge difference: they do not consume meat and that means a big gap in the per capita carbon footprint of both countries. Nonetheless, we enjoyed going to buy spices and other ingredients that Patchy used to prepare delicious dishes using only very few ingredients and kitchen utensils; needless to say that while eating we also discussed different ways of cooking and learnt a lot from the resourcefulness Patchy had to substitute ingredients when the spice required by the recipe could not be found or was not fresh enough. He constantly reminded us that all his knowledge and abilities came from watching his mother perform at the kitchen, and that he was afraid he had already forgotten more than he could still remember.

The site where we used to share ideas, discuss planning for the future, build programmes, and many other things, has a beautiful view of the Cuernavaca Valley and its mountains to the south, and to the surprise of all the locals in the group, while Patchy and Ash stayed with us, it did rain during the afternoon every other day as it does in India during the monsoon season, probably not as often but surely with the same intensity. Patchy did not miss any of those days to delight eating a second helping of dessert, something that, we noticed, he would never miss.

On the scientific aspect of global warming, we used to have long sessions translating the material in the latest IPCC publications into Spanish and making the changes needed for a non-specialist audience, but there was a special afternoon when the conversation centred on an interesting deduction we had made, about the by then well-established temperature limit of 2 °C, by observing Figure 2.3 of the Synthesis Report to the Fifth Assessment Report (AR5) of the IPCC (also published as Figure SPM.10 in the Summary for Policymakers by the Working Group I (GWI) in the AR5). This figure summarizes the temporal evolutions of climate stabilization, climate change commitment, and irreversibility by using the CMIP5 models to derive the global temperature increase from the accumulated concentrations of carbon in the atmosphere as dictated by the four familiar representative concentration pathways (RCPs). A careful examination of the plotted results shows that there is only one RCP that by 2100 avoids a global temperature

increase greater than 2 °C, and that is, because carbon emissions are eliminated along this pathway, RCP2.6, before or around 2050. We think that this was one of the single points the evolution of which he would have liked to follow: Were we doing enough to avoid crossing inadvertently a tipping point that would have made going back to paradise Earth impossible?

Dr Rajendra Pachauri

LAWRENCE GONZI

Former Prime Minister of Malta 2004–2008, 2008–2013

Ifound myself drawn to Dr Pachauri and his vision when I first met him in May 2017 during a conference organised by Horasis, an independent international organisation focusing on sustainability, principled leadership, and community building. The conference was held in Cascais, on the Portuguese Riviera, near Lisbon. At the time I was invited by the organisers to chair a panel of four distinguished Nobel Laureates who were asked to share their thoughts regarding the manner in which their prize had "helped others to generate togetherness as a force against ignorance and adversity".

The four laureates were Bernard Kouchner, founder of Médecins Sans Frontières (which was awarded the prize in 1999 for the organization's willingness to send volunteers quickly to scenes of disaster, regardless of the political situation); José Ramos Horta, former president of the Republic of East Timor, for his efforts in seeking just and peaceful solutions to conflict (awarded in 1996); Jody Williams, chairperson of the International Campaign to Ban Landmines (which was awarded the prize in 1997 for its work for the banning and clearing of anti-personnel mines), and of course, Dr Rajendra K Pachauri, whom I introduced as "Chief Mentor of Protect Our Planet, and who is committed towards addressing the challenges of climate change and the common good" (prize awarded jointly to IPCC, the Intergovernmental Panel on Climate Change – of which Dr Pachauri was the chair – and to Al Gore, in 2007).

When I kicked off the discussion among these four distinguished personalities in a hall packed with experts, volunteers, business leaders, and politicians, I chose to give some details about Dr Pachauri, mostly for those, like me, who had not met him before and who sensed that his personality could inspire present and future generations to face the reality of the challenge that humankind had taken it upon itself by choosing to prioritise progress against the well-being of our planet.

Of course, I introduced the rest of the panel in the same manner, but perhaps I need to explain that as a citizen of the island nation of Malta, I have learnt through personal experience the tremendous political, economic, social, and cultural challenges that

environmental sustainability presents to the human race at this stage when the very survival of our planet is at stake.

Perhaps I should also add that at the time of writing, the planet is still trying to resolve the tragedy caused by a pandemic that has brought countries – whether developed or not – to their knees. For these past long months we have been forced to face the tremendous impact of a virus that kills indiscriminately, forces lockdowns, causes loss of jobs, and brings misery to millions whilst uncovering the crisis of human values especially solidarity towards those who are the weakest amongst us.

It is with this background in my mind that I look back to that moment in time when I met Dr Pachauri.

It was inevitable for me to be drawn to a vision that did not simply recognise the challenges of sustainability and survival of our mother earth but was also an inspiration for others to stand up and be counted when faced with 'ignorance and adversity' as mentioned in the theme of the conference. After dedicating most of my life to active politics inspired by those universal values that recognise the dignity of the human person above all else, I found myself introduced to a personality who was prepared to act in order to make sure that our children and grandchildren will inherit a future that is radically different from the one which appears on the horizon.

It was for this reason that I chose to introduce Dr Pachauri as an economist and industrial engineer by training, and as a person actively involved with energy and climate issues for nearly 40 years during which he participated in numerous international forums dealing with the subject of climate change and its policy dimensions apart from an extensive academic career addressing the same issues.

It was precisely because of this expertise that Dr Pachauri was elected the chairman of IPCC in April 2002 and re-elected by acclamation in 2008. For the record, let me remind readers that in 2007 the Nobel Peace Prize was awarded to the IPCC jointly with Senator Al Gore "for their efforts to build up and disseminate greater knowledge about manmade climate change, and to lay the foundations for the measures that are needed to counteract such change".

The panel discussion was very well received, and I was extremely proud of the fact that the whole audience reacted enthusiastically to what was being said by the four panellists, including a few very challenging questions put to them by some young students and activists in the environmental sector.

Immediately after the conference, Dr Pachauri asked to see me in one of the private rooms at the Conference Centre. I remember he was accompanied by his son, Dr Ash Pachauri. That was the first time I had the opportunity to listen to his vision regarding climate change and the efforts that needed to be done in order to raise awareness across the planet. Towards the end of our conversation, he asked me – as a former Prime Minister of Malta – whether I would agree to join a highly distinguished list of patrons of the World Sustainable Development Forum. I told him that for an islander such as myself – fully aware of what these issues meant for the future of my country – I would be extremely honoured and privileged to do so and that I would be happy to contribute as best as I could.

That was what brought us together the first time. But what is more important for me is the significance of that invitation and the reasons why I accepted to take up the challenge and the opportunity to contribute.

During my time as prime minister of the island nation of Malta (2004–2013) and a member of the European Union, my country had to face and overcome the 2008 financial crisis, the steepest hike in oil prices, the challenges of migration from North African countries, the increasing danger caused by pollution of the Mediterranean, the shift in fish migration routes mainly because of rising sea temperatures, the problems created as a result of overdevelopment and construction, the need to control centuries-old traditions of hunting and trapping of migratory birds, the use of fossil fuels to generate electricity, the lack of water and consequently the incremental use of electricity to transform sea water into drinking water, and so on.

Readers will appreciate that the issue of sustainability features in each and every one of these challenges. Addressing them in a manner that safeguards the sustainability of our beautiful island and the seas that surround us was never going to be an easy path to take.

More often than not, sustainable options require solutions that are not necessarily popular with sectors of our society. Limiting construction to safeguard open areas and greenery in an island that ranks amongst the world's most densely populated countries, means that you will have the construction lobby and the land owners up in arms. Addressing centuries-old traditions such as uncontrolled fishing and hunting will inevitably raise the ire of those who have enjoyed this tradition since they were born. Choosing clean energy often implies higher costs, which means that households will have to make choices that could impact their quality of life whereas industries would have to cater to a hit on their bottom line—something which shareholders will not easily accept.

Dr Pachauri's invitation was an invitation to face these difficult choices and to help our communities to carefully weigh the cost and the benefits of every single initiative that can save our planet or, if we want to bring this closer to home, every initiative that can help our children and grandchildren inherit a country that is healthy, beautiful, and successful.

The Nobel Peace Prize citation from which I quoted earlier in this article includes the phrase "to lay the foundations for the measures that are needed to counteract such change". I personally consider this statement to be an important part of the precious environmental legacy that was left to us by Dr Pachauri. After all, laying the foundations that are vital for the successful implementation of preventive and remedial measures has been and will continue to be one of the priorities of our generation if we are to save this planet of ours for future generations.



Expo 2017 Nursultan (former Astana) together with Prof. Ahrens





At the Julius-Stursberg-Gymnasium, Neukirchen-Vluyn (Germany)



At the World Sustainable Development Forum in Mexico City 2017, together with the German POP Movement Team

Climate change, children and young people: a remembrance of Dr Rajendra K Pachauri

DONNA L GOODMAN

Program Director, Author Donna Goodman Productions, Earth Child Institute, Ecomasters

In 2003, I joined UNICEF to develop an interactive online game for the empowerment and education of children. The game was called 'Water Alert' and offered a series of urgent water-related decision points to be made by the player. By the time the game was launched worldwide, UNICEF offered me a full-time position in water, environment, and sanitation (WES) to work on child participation in the sector and WASH (water, sanitation, and hygiene) in schools. As a 'water' person, my field work, talking to kids about changes in their communities, how their once-familiar crops no longer grow, how the water pumps don't go deep enough, how the children cannot walk to school because the route is flooded, etc., led to research on climate change, which was how I first came to know of Dr Pachuari and the IPCC, the Intergovernmental Panel on Climate Change, and which I felt in my bones would be the biggest challenge to be faced by the world's children in post-industrial world.

In 2005, I convinced senior management at UNICEF to get involved in climate change, as a first step, by preparing for and participating in COP-13 in Bali in 2007. It was in Bali that I first met Dr Pachauri, under whose leadership the IPCC had just then been awarded the Nobel Peace Prize, together with Al Gore, the former Vice President of the United States. I was pleased to share my most sincere gratitude and appreciation for his groundbreaking work that enabled us to represent children within the global climate change platform for action. He was so very humble and brilliant in response and kindly, but directly, assured me that we would meet again. It was in Bali that I learned that the UNFCCC, as an international convention, along with its sister Rio conventions, did not have a constituency group for children or young people. Together with colleagues at the UNFCCC Secretariat, UNEP, UNESCO, our efforts for UNICEF, and several Parties led

to the adoption of the YOUNGO children and youth constituency in 2009, with the other conventions following suit in subsequent years.

We met again at a Yale reception at the COP in Copenhagen 2009, when Dr Pachauri had been appointed to lead the Yale Climate and Energy Institute. At that meeting, with a heart full of appreciation and respect, I mentioned to him that although my office was in New York, I was a lifelong resident of the greater New Haven area and that I would be honored to meet in his new office. At that, his eyes seemed to twinkle and he handed me his new card and that was that! A few months later, true to his word, we met in his office at Yale and to my incredible surprise, this most world-renowned scientist and thought leader handed me a proposal for a global network of children to tackle climate change. My honor was very sincere, and I told him that I'd been thinking of something along the same line with UN partners, as I was at that time serving as chair of the UN Decade of Education for Sustainable Development, on behalf of UNICEF and in partnership with the Earth Child Institute. Now that we were on the same page and invested in a common goal, the critical factor was to find sustainable funding to develop and launch the network and programming.

Much work came about over time, and I have personally worked in dozens of countries at the policy level to help to get climate change funding allocated to the education sector, or even children and families themselves, but with billions of dollars flowing all over the world to tackle climate change, the sustainable funding for this joint project has yet to be secured. Human beings under the age of 18 on this planet are 2.2 billion, or almost one-third of the global population. Yet, precious few funds have been allocated to their participation and empowerment. Of course, many of us continue to advocate sustainable funding to support the empowerment of children and young people, who are now squarely the people who will need to have the skills and knowledge to live in a rapidly changing, increasingly perilous planet.

Faced with a renewed sense of urgency, my professional focus has shifted to 'edutainment', which, by using fact-based fiction for kids, global action, adventure series of books and interactive, multimedia content development, can reach millions of children around the world as quickly as possible. The series, ECOMASTERS: A Planet in Peril, is led by 13-year-old girls in USA, Malawi, Laos, and India and they must reach an ancient hidden island training center in the Amazon river basin to learn to survive and thrive. Our young ECOMASTERS in-training were not yet even born on this Earth when my quest related to climate change and children started. In more than 60 countries, over nearly thirty years, when I have asked kids what the biggest obstacle to their project or activism is, they, almost unanimously, say, "It is so hard to get adults to take us seriously!" I've heard it in so many languages, north, south, east, west. How to prepare fresh water for drinking, how to survive a flood ... or fire? How to grow food? How to get energy from sunlight or wind? Produce a radio show?

These questions bring us full circle to September 2021, in preparation for COP26 in Glasgow, where the world will sorely miss our mentor and visionary Dr Pachauri. Graciously, his son Ash Pachauri and others are fulfilling the mission set out so long ago through the POP, the Protect our Planet Movement, which points out that "There is a need to bring billions of young individuals to the cause of addressing the threat of climate change, so that in future they become sustainable thinkers in whatever profession they choose to pursue. There is an immense need to link all the youth associations, organizations, and most importantly each young individual, and provide

them a platform where they share their action-oriented efforts to integrate activities, mobilize collective efforts and utilize knowledge to act upon and share what they are doing to address the threat of climate change." Yet, they, as I and so many others, are still seeking funds for this critically important work. I know 110% that Dr Pachauri, and so many other awesome trailblazers and partners who have left the Earth, such as Wangari Maathai, Pam Puntenney, Dr Jenny Pronczuk, and countless others would join me in taking this call to Glasgow and demanding sustainable funding for education and empowerment of every child on Earth today... and of those who are still coming. They need tools, training, and the courage that comes from self-awareness and teamwork, to ensure a sustainable future for all.

Reminiscing Patchy

TIMOTHY G. GREGOIRE

J. P. Weyerhaeuser Professor of Forest Management, Yale School of the Environment New Haven, Connecticut, USA

r Rajendra K Pachauri spent a sabbatical semester at F&ES, the School of Forestry & Environmental Studies at Yale University, during the fall 2000 term. I held a senior position on the faculty and our offices were in the same building. Our acquaintance during that term was the start of a warm, 20-year friendship.

Two of my faculty colleagues and I visited TERI in 2002 to meet with members of the faculty at the newly formed TERI School of Advanced Studies (SAS) in order to acquaint them with the longstanding master's degree programs at F&ES (newly renamed as Yale School of the Environment).

Shortly thereafter F&ES signed a memorandum of understanding with TERI, which was followed shortly by funding from the V K Rasmussen Foundation to support scholarly exchanges of personnel. With that funding I was able to send my other faculty colleagues to visit TERI at the India Habitat Centre in Delhi. Rasmussen funding also permitted me to host master's students from SAS at F&ES for a term. This student exchange continued for five years. I also rented an apartment in New Haven for visiting faculty and staff from TERI and TERI-North America, where I served on its board of directors from 2003 to 2016.

Being a statistician, my friendship with Patchy really did not influence my research and teaching. Yet it had a tremendous effect on my outlook, as it led to further collaborations in India and many long-lasting friendships. For many years I attended the Delhi Sustainable Development Summit at Patchy's invitation and as an envoy from Yale University.

Around this time, Yale's board of trustees had launched the 'Yale in India Initiative'. Patchy developed a close working relationship with Yale President Richard Levin. President Levin frequently characterized the Yale–TERI collaboration as the most prominent of the Yale in India Initiative.

During one of these years I was also approached by an undergraduate Yale College student who was about to graduate and hoping to find a job in India. After interviewing her in my office and examining her CV, I gave her a strong recommendation to Patchy. At this time, Patchy was the Chair of the IPCC. He proceeded to hire her as a research assistant to help with IPCC duties. She stayed at TERI for two years before matriculating at Harvard Law School. A year later my elder son also graduated from Yale in 2012, and Patchy hired him as a research assistant also, where he worked at IHC and travelled with Patchy on IPCC trips abroad.

At Patchy's request, I agreed to serve on the advisory director board of the World Sustainable Development Forum – North America from 2016 onward. It was a great honor to do so.

Friend, mentor, collaborator, R K Pachauri had a profound influence on my career and professional life. It is an immense honor to express my gratitude to him posthumously and to pay heartfelt tribute to this remarkable leader.

A mighty good man

THEO GROOTHUIZEN

Former Counsellor for Science & Technology, the Netherlands Embassy, India (2006–2012)

t is a great honor for me to be asked to share some memories about Dr R K Pachauri, Patchy.

⚠ My association with Dr Pachauri started in 2006 when I came to Delhi to be the first ever Counsellor for Science and Technology at the Embassy of the Kingdom of the Netherlands.

In 2006 I arrived from South Korea, where I was a visiting professor of industrial design and innovation. I was assigned by the Dutch government to connect research and knowledge institutes, innovation centers, and technology-intensive companies from India with those in the Netherlands.

The question was, where to start. India, a subcontinent in itself with more than a billion inhabitants and a developing economy on one side and The Netherlands, a tiny country 1.25% of the size of India with 17 million people, and a highly developed economy on the other side. Can one find a common denominator and develop a win–win formula? The assignment, of course, was to find partners for strengthening the sectors which were driving the Dutch economy.

The most obvious and practical strategy was to plan visits to ministries, leading research and science institutes, and high-tech industries and to learn about their modus operandi, objectives, and dreams and, even more important, about Indian culture.

One institute high on the list was TERI (at that time – and for many, still – the Tata Energy Research Institute) because of the extensive research base on water, river management, energy, agriculture, biotechnology, and sustainable development. TERI and The Netherlands had collaborated in several projects already.

Within a few days an appointment was made, and together with a local colleague I visited the TERI HQ at the impressive India Habitat Centre on Lodhi Road for the first time. The meeting was scheduled for an hour, but it could have lasted several hours.

A few weeks later an invitation came in for a follow-up meeting in which TERI's Director-General Dr Pachauri also joined. What a great first impression he made! After

the obligatory presentation of slides from both sides, a discussion started about what drives TERI and what collaboration the Netherlands is looking for. The spark between Dr Pachauri and me ignited when the subject came to innovation. The way the Netherlands (positioned in the top five in the global ranking for innovation) looks at the innovation process and the role of research and science is almost the opposite from the way TERI and many experts in India do. In the advanced 'Western' economies it is all about translating scientific excellence into new products, systems and services, and leading business positions. In India, on the other hand, it is about improving quality of products, systems, and services and the creation of direct benefit for people, in particular for those at the 'base of the pyramid'. Top-down versus bottom-up, or the haves versus the have-nots. Social innovation is the key, which is at present time more important than ever.

Dr Pachauri, with a mild fanaticism but sparkling eyes, explained that TERI aims to be a leading innovation institute, driven by research, and that he was convinced that India could and should take a leading role worldwide, in particular in sustainable agriculture, food production, low-cost off-grid energy and sustainable housing, to name a few. This subject would be a recurring topic in discussions with Dr Pachauri and strongly contributed to our personal bond.

Dr Pachauri and his staff helped me in many ways to expand my network in India and to introduce me to high-level people in government and knowledge institutes as well as to understand the mysteries of Indian culture and habits.

The challenge remained to find a way to connect the 'Western' innovation methodology and design thinking in the Indian way. In the period I worked and lived in India – 2006 until 2012 – many official and research delegations from India visited the Netherlands and vice versa. But it showed that it was difficult to realize that innovation connection convincingly. Dr Pachauri paid several visits to the Netherlands advocate that connection. Also, there were several high-level visits to India, among which was a state visit headed by the Queen of the Netherlands, who honored TERI with a visit.

I got to know Dr Pachauri as 'a mighty good man'. Not only mighty as leader of the IPCC and TERI but also an exceptional personality, powerful but modest, as a man with an overarching vision, as a great speaker and great listener, always willing to reach out, as a friendly person with a good sense of humor and as a good friend. It was really impressive to see him move on so many different stages and levels, from heads of governments and royalty and always dressed impeccably in beautiful Indian fabrics.

His work for the IPCC and other international organizations left, on everybody, a lasting impression. The morning IPCC was awarded the Nobel Prize, I just arrived at the India Habitat Centre for a meeting on water technology and I saw a large group of TERI employees dancing in front of the entrance, celebrating the fantastic news. Ten minutes later, Dr Pachauri appeared and was cheered by everybody. In his brief speech he expressed that he was proud but that the prize was a collective effort of all scientists and people at the IPCC as well as the TERI people. How typical! I was at the right place at the right moment, and the only foreigner present at the square to congratulate him personally.

At the end of my tenure at the embassy, Dr Pachauri – by then I was allowed to call him Patchy – organized a farewell party at TERI headquarters for me and my wife. In his speech he called me an exceptional friend and supporter of TERI and praised my efforts to understand Indian culture. He said, "I cannot, but if I could arrange it, I would love to provide you with an Indian passport. You deserve it". He also made fun of me because I never accepted his invitation to join him in a cricket game.

During my years in Delhi I had the opportunity to meet many times with experts from TERI to prepare projects and to plant seeds for future collaboration. I was honored by Dr Pachauri with a role as international advisor for WSDS and involved in setting up a representative office of TERI. Until COVID 19 changed the world, I visited India several times a year with or without Dutch delegations, and TERI was always on my schedule. Not only to catch up professionally but also to meet with several TERI friends, and luckily with Dr Pachauri.

In 2018 I met Patchy at his home in his 'hidden' office. It was a brief reunion, because he was too busy preparing a trip to a conference and governmental meeting abroad, in spite of his health problems. We said 'see you again soon'. I was shocked to hear he passed away.

My last meeting was certainly not a farewell, because he will stay in my memory for ever.

Remembering and paying homage to Patchy

AMEENAH GURIB-FAKIM

Office of the 6th President of the Republic of Mauritius

The Dr Rajendra Pachauri, for the first time, at the Nizami Ganjavi International Centre annual conference in Baku in 2019. I saw him in the conference room unassumingly standing and waiting for the conference to start. I instantly recognized him and I went up to him to greet him as I had heard about his work since 2007 when IPCC, the Intergovernmental Panel on Climate Change, which he chaired, had received the Nobel Peace Prize jointly with Vice President Al Gore for their work on climate change. At that material time, I was working with his predecessor, Prof. Robert Watson, on the International Agriculture Assessment (IAASTD). Dr Pachauri was well known and respected globally because of his larger-than-life scientific aura and also for the fine work that he did within that panel.

Dr R K Pachauri, or Patchy as he was, affectionately, referred to, has been a towering figure in science. His remains an internationally recognized voice on environmental and policy issues, and through his tireless leadership of the IPCC the issue of human-caused climate change gained traction as a matter of vital global concern.

Patchy's leadership of TERI, The Energy and Resources Institute, has been lauded both from professional and personal points of view by those who worked under his leadership. However, he is, and will be, always remembered for his seminal contribution at the level of the IPCC.

He was very vocal on the vagaries of a changing climate and remained convinced that the world must set itself ambitious targets in order to avoid the climate tipping point. In all his speeches he would push for the protection of the Global Commons. He strongly advocated that every effort must be made to protect the Global Commons and always referenced the Hindu philosophy of 'vasudhaiva kutumbakam', that the whole universe was very much one family.

There was one quote from him that resonated with me as someone who hails from an island and from Africa: "... in recent years several groups have studied the link between

climate and security. These have raised the threat of dramatic population migration, conflict, and war over water and other resources, as well as a realignment of power among nations. Some also highlight the possibility of rising tensions between rich and poor nations, health problems caused particularly by water shortages and crop failures."

It was prescient as we are already living this scenario, which has now been exacerbated by the Corona virus pandemic.

During our conversation in Baku, I recall how he was very passionate about his new but major initiative with young people and the oceans. He remained convinced and I could not agree more that the water we drink, the air we breathe, are all connected to a healthy ocean. He invited me to participate in the meeting in Mexico and to be among the Patrons of the World Sustainable Development Forum and to address the conference.

I responded in the affirmative because one cannot say No to Patchy. He speaks and behaves in such humility for someone of his stature. Ever since we started exchanging on logistics and conference issues till the time I read that Patchy was no more!

I was in shock and disbelief over the news. I was so much looking forward to meeting him again but it was decided elsewhere that it was not meant to be.

The meeting in Mexico went ahead in Durango and in spite of him not being there physically, he was there in spirit and I am sure he must be proud that his son, Dr Ash Pachauri, is taking the torch forward. I am sure that Ash will succeed as the ideals were as noble as grand.

The huge legacy of Patchy must live on . . .

Dr Pachauri and his contribution to the success story of Joint Implementation under the Climate Convention

TED HANISCH

Founder of Center for International Climate and Environmental Research Oslo (CICERO), University of Oslo

s more than 150 member states of the United Nations assumed the task to negotiate the Framework Convention on Climate Change (UNFCCC) in Chantilly, Virginia, in January 1991, invariably Dr Pachauri was there. Luckily, I was there too, as a member of the Norwegian delegation. We got to know each other, certainly initiated by 'Patchy', as I was allowed to call him. We had been close friends ever since.

Dr Pachauri, at the time, had already served as the chief executive of TERI for ten years. I had founded CICERO as late as 1990, following the report from the Brundtland Commission on Environment and Development. TERI was a group of maybe thirty young people at the time, and CICERO was me and five others. But ambitions were sky high: TERI currently employs 270–300 experts and CICERO, 70–80.

The main target of our deliberations in the beginning was a proposal from Norway regarding implementation of the commitments: we proposed that parties to the convention could choose to implement on their own or jointly with other parties. At the time 'joint implementation' was unknown as part of any international convention. We foresaw that joint implementation could happen among industrialized countries and between those countries and developing countries.

Behind our proposal was the fact that costs of implementing reductions in current and future emissions would vary among countries depending on their energy systems, as they would in economic sectors in member states. Introduction of new technologies is and was crucial to this effect. It was all about cost-effectiveness.

Given the fact that Dr Pachauri had a PhD in energy economics and was an expert on energy systems as well as a pioneer of sustainable growth, he immediately was on board. Because his position in the field was already strong, his support was crucial. Contrary to expected skepticism, the proposal was approved. I think it is fair to say that without the support of Dr Pachauri and India as a major player, this would not have happened.

Already within the first months of the negotiations CICERO and I had presented to the delegates an introductory paper on joint implementation, namely Ted Hanisch: Joint Implementation of Commitments to Curb Climate Change (CICERO policy note 1991: 2). Most responses were positive, but some were negative, referring to a danger that developed countries could 'buy themselves out' instead of doing the job at home. (No such problem has manifested to this day.)

From then on, we acted fast. During 1–3 July 1991, Dr Pachauri and I organized the first CICERO workshop which resulted in the book *A Comprehensive Approach to Climate Change: additional elements from an interdisciplinary perspective*. Three months later, it was on the desk of the delegates. As the Climate Convention moved closer to completion, a first draft of an 'operations manual' for joint implementation was in demand. Dr Pachauri, with his wide technical knowledge, was the perfect and indispensable expert to provide the first contribution here. So, on 20 February 1992, Dr Pachauri and I, in collaboration with Dieter Schmitt from Germany and Pier Vellinga from the Netherlands, published The Climate Convention: criteria and guidelines for joint implementation (Cicero Policy Note 1992: 2). The report contributed to increased acceptance of the mechanism.

Since 1994, when the UNFCCC came into force, massive efforts and research have been put into the framework and practicalities of joint implementation. The mechanism was included, reaffirmed, and specified in the Kyoto Protocol under the UNFCCC. During the process, one made a distinction between joint implementation (1) between industrial countries and developing countries and (2) among and within industrial countries.

Everything was and is meant to put a price on emissions of greenhouse gases. It seems obvious that these initiatives were linked to the introduction of Joint Implementation, which has fueled the use of cost-effective implementation schemes far beyond what was foreseen in 1992.

Almost all of the progress made in using the contribution from Joint Implementation and the logic of cost-effectivity has been achieved by the use of a market for tradable emission permits. There is now a market for these quotas around the world. The elegance of such a market is that it may be used by enterprises as well as countries. There is one indispensable condition for the market mechanism: you need specific commitments for the area or sector within which you issue verifiable permits. With more ambitious commitments, the price of permits can be kept at a useful level.

The pioneering area was within the European Union. After a few years of market failure after the 2008–2009 recession, the success is very promising. Given the strengthened ambitions following the Paris Agreement, the market value currently is more than 50 euro (\$60) per tonne of CO₂.

During the period since the Kyoto Protocol in 1997, new markets for trading emission quotas have been developed around the world. It is also used within some states in USA, in South Korea, and more recently and of course significantly in China.

The success of joint implementation among and within industrial countries has so far been more limited. A market for emissions trading between the two groups of countries, often linked to enterprises on both sides, was achieved from the so-called Clean Development Mechanism (which has also been used for HFCs and N2O). The use of GHG permits started in 2011. However, the failure of issuing countries to guarantee the existence of connected projects into the future and the question of additionality led to extremely low prices and a collapse of the market.

With this background, currently the only available mechanism is traditional implementation and cooperative projects between countries. There is a limited number of such projects, mainly connected to avoid deforestation of rain forests.

Even if progress in such complicated mechanisms is difficult and depends on clear commitments from governments, which unfortunately takes time, the overall success has been tremendous. According to the World Bank, more than 16% of global emissions are currently covered by the pure emission trading system, and if you add carbon tax mechanisms partly with the same effect, 22% of global emissions are covered.

If one in the near future could be able to include countries like USA and India, it would be a significant breakthrough.

Dr Pachauri was able to follow the impact of our efforts to develop the concept of Joint Implementation very closely, in his capacity as the director general of TERI and as chair of IPCC. It is a small success in a world of grim irresponsibility by governments in admitting the climate crisis to continue.

From 1992 on, far-reaching cooperation between TERI and CICERO has continued to this day in many areas within the field. I myself left CICERO in 1994. Looking back, nearly 30 years later, I very much regret that decision, even if I thought it was necessary for private reasons.

It was a pleasure and an honor to work with Dr Pachauri. I certainly would have loved to continue, as would have many others around the world.

My fond memories of Dr Rajendra Pachauri

YUKIO HATOYAMA

President of the East Asian Community Institute, The 93rd Prime Minister of Japan

s I write, over a full year has passed since the death of Dr Rajendra Pachauri. In reflection, I can state now, with even more forceful conviction than ever before, that late Dr Pachauri played a genuinely pivotal role in guiding the human race in the direction needed to save the priceless global environment.

It was at the February 2018 WSDF, the World Sustainable Development Forum held in Mexico City, that I last met Dr Pachauri, the founder of the Forum, and received essential guidance from him. At that forum, I had a chance to speak on the subject of environmental damage in Japan caused by the accident in a nuclear power plant in March 2011. Drawing from that experience, I insisted that there can be no lasting solution to the climate change crisis without phasing out nuclear power generation. Dr Pachauri expressed his warm support of that stance, although reminding me that such a quest would not be easy to achieve.

Two years after the Mexico City forum, I was greatly looking forward to getting together with Dr Pachauri again at the WSDF convened in Durango, Mexico, in March 2020. However, I learnt of his passing away one month before that event. I was incredibly shocked and my heart broke with grief. At the Durango forum, however, Dr Ash Pachauri, Dr Rajendra Pachauri's son, performed magnificently in carrying on his father's legacy and leading that gathering to a fruitful conclusion. I believe the elder Dr Pachauri would have been tremendously reassured and overjoyed by that outcome.

For myself, I established the Democratic Party of Japan (DPJ) in 1996 in order to reform Japan. At that time, the stance of the Japanese government on global warming and other environmental issues largely stressed the interests of industrial circles. Indeed, Japan used to be slow in following the global trends on such ecological matters. The party raised the level of that argument to the dimension of a full-fledged paradigm change. My firm belief has always been that Japan is a nation that truly needs to lead the world in the battle against climate change, and the DPJ issued a public pledge to that effect in the form of

a manifesto, which helped the party to victory in the general election of 2009. I finally became the prime minister of Japan, a post I held through the following year.

As part of the DPJ manifesto, as well as the climate-change policies championed by my own administration, the ultimate goal was to create a fair and effective international framework by all major nations. Toward that end, we vowed to reduce, by 2020, Japan's greenhouse gas emissions by 25% of what they had been in 1990. The government of Japan also launched the 'Hatoyama Initiative' to support developing countries aggressively. This initiative coincided with the advanced nations' movement to offer financial and technological assistance to those developing countries that tried to reduce their greenhouse gas emissions ambitiously by establishing Nationally Appropriate Mitigation Actions (NAMA) and so on. In September 2009, I attended the United Nations Climate Change Summit in New York as Japan's prime minister and unveiled our own thinking and plans to the international community.

With regard to the devising of such policies, I learned bountiful lessons from the proposals of IPCC, the Intergovernmental Panel on Climate Change, a body then chaired by Dr Pachauri. Within that process, I remember being told by Dr Pachauri that he considered my message on these issues as being admirable. That thrilling encouragement inspired me to work even harder toward those goals.

During an official visit to India in December 2009, I had the privilege of getting together with Dr Pachauri. We utilized that occasion to deliberate on how best to maintain and further raise the momentum leading up to the Sixteenth Conference of the Parties (COP 16) to the United Nations Framework Convention on Climate Change scheduled for the following year. Meanwhile, in February 2010, I was honored with the Sustainable Development Leadership Award by TERI, The Energy and Resources Institute, an organization which Dr Pachauri oversaw as Director General at the time.

I clearly remember his enthusiasm that Japan, and myself, were poised to lead the world in conquering the issues related to climate change. That support redoubled my resolve to succeed in this crucial mission.

Unfortunately, various factors led to my stepping down as prime minister not long thereafter. It is with even more pronounced regret that I must report that the initiatives I discussed with Dr Pachauri are yet to be realized. For its part, Japan has returned to a nation reluctant to speak out on the key aspects of the climate change challenge as a leader.

Please rest assured, however, that I have certainly not given up on this cause. Within the global community, furthermore, opportunities are steadily mounting for a renewed push to seriously come to grips with the perils of climate change. Although I personally no longer hold a public office, I continue to embrace powerful concerns regarding climate change and ecological deterioration. Recently, I have been devoting a great deal of time and taking keen interest in researching the subject of hydrogen energy.

If Dr Pachauri were still with us, there is no doubt that I would be seeking out his precious wisdom and advice on such matters. When I allow myself to think in such terms, I feel deeply saddened and distressed anew at the loss of such a cherished and distinguished pioneer in the field of climate crisis.

In closing, I wish to use this space once again to go on record with my heartfelt gratitude for the invaluable knowledge and leadership provided by late Dr Rajendra Pachauri over the years. As one of those remaining behind, I can only pledge to do everything in my capacity to carry on and realize the ideals that he so eloquently espoused and embodied.

Dr Pachauri, I sincerely thank you again for your enlightened judgment and support. May your gentle soul rest in eternal peace.

We protect our planet together

BJØRN K HAUGLAND

CEO, Skift Business Climate Leaders Friend, Collaborator and Partner

Protecting nature and the environment have always been my interest. From 2004 to 2009, I lived and worked in China as head of the international risk management and certification company, DNV. These years transformed my interest in and engagement with climate change. This was due to the enormous environmental challenges I witnessed in Asia and because the Nobel Peace Prize, 2007, was awarded jointly to IPCC, the Intergovernmental Panel on Climate Change and Al Gore "for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change". Climate change climbed to the top of the world's and my agenda.

Back in Norway, I took charge of DNV's sustainability journey as the company's Chief Sustainability Officer. With ambitions to make a global impact for a safe and sustainable future, DNV established its Sustainability and Innovation Division in 2010.

In 2013, DNV acquired GL (DNV GL) and soon after launched an ambitious project to articulate its vision of a global impact for a safe and sustainable future—and to set goals for itself. As part of the journey, DNV GL engaged executives, thought leaders, and activists in this subject area through interviews and roundtables.

The first roundtable, Moving Beyond Business as Usual, took place in Copenhagen in November 2013. We invited Dr Pachauri to attend and he graciously accepted.

Dr Pachauri, or Patchy as he was known to his friends, greeted the roundtable executives with humility and curiosity. I quickly understood that this was how he always met people. He made a transformative impression on the group that day. He listened and then communicated the results of complex climate science in a language that was understandable to us laymen.

During the roundtable talks we also identified several areas of action, including the need to tell a compelling story about sustainability that 'speaks to hearts and minds'. And with an engaging narrative in place, we could begin to address another area for action, which is to change mindsets about the global sustainability challenges. When I look back

at those discussions, I drew inspiration from Patchy's profound insight, energy, and his great ability to speak to our hearts and minds—and I still do.

Indeed, for me, the roundtable talks back in 2013 was the start of our special friendship.

We enjoyed many conversations and dialogues over the next few years. In 2014, we visited Svalbard together with Tine Sundtoft, the Norwegian Minister for Climate and the Environment, and every year we met at the UN Annual Assembly in New York and other events around the world, including his own World Sustainable Development Forum.

From my first meeting with Patchy, I continued to be fascinated by his warm human personality and interest in other people. Once I invited him to my hometown, Bergen, where he helped kick off a major business conference on sustainability.

His opening remark was as follows: "When I walked over to the conference centre this rainy morning I met a boy and asked him, "Does it always rain in Bergen?" "I don't know", replied the boy, "I am only seven years old". This made the audience laugh and Patchy's message on climate change immediately connected with them.

Patchy worked tirelessly to push sustainability higher up the political agenda and deeper into public consciousness, constantly reminding us that these are pressing issues which indeed affect us all. He also had a great ability to turn thought into action and regularly supported our initiatives. For instance, DNV, together with the UNGC, published its annual Global Opportunity Report. The first edition was launched in 2015 with the support of Patchy and TERI, The Energy and Resources Institute. Patchy firmly believed that businesses must be part of the sustainable development solution, together with governments, academia, and society. Not just because it is the right thing to do, but because it is the only way to build prosperity.

One of our finest moments together and a lasting memory for me was during my visit to New Delhi in 2016. Patchy invited me to dinner at his home and I had the pleasure of meeting his family. We had such a pleasant evening together, with excellent food, conversation, and laughter.

In 2019, I wanted to expand my engagement in climate change and I decided to cofound the business coalition Skift Business Climate Leaders. During this process, I had several conversations with Patchy to obtain his valuable advice and we discussed several ways of collaborating to move forward. We planned a visit to Norway that had to be postponed several times due to Patchy's ill-health.

Dr Pachauri dedicated his entire working life to the environment and sustainable development. He also established the POP, the Protect Our Planet Movement, so that young people could be at the forefront of climate ambition and climate action.

He envisaged that the World Sustainable Development Forum would give rise to deliberations and outreach involving governments, political representatives, the business sector, celebrities, civil society, youth, and thought leaders.

Patchy passed away on my birthday: 13 February 2020. He is sorely missed, and I will do my best to support his efforts and take his vision forward.

In remembrance of Rajendra Pachauri

CONNIE HEDEGAARD

Former EU Commissioner for Climate Action (2010–2014) Former Minister of Environment, Climate and Energy in Denmark (2004–2009)

Thenever I see the photo from the North Greenland Eemian Ice drilling station, NEEM, I smile.

Greenland's Environment Minister at that time, Kim Kielsen, and I had invited New York Times's commentator Thomas Friedman and the chairman of the IPCC to visit the ice core drilling station on top of Greenland's inland ice. It was the summer of 2008, and it was still very much needed to get the facts about climate change out to a broader public. Our guests were therefore picked carefully. Thomas Friedman's pieces were published all over the world, and also Rajendra Pachauri had a global audience, and through his tireless travels he reached out to people and policymakers on all continents. Therefore, it was important that they see ice drilling and for days have the opportunity to discuss the latest findings with scientists.

It was definitely not a luxury tour. To go from Delhi to the middle of the inland ice in the northern part of Greenland was in itself quite strenuous—although the last short stretch on a snowmobile was great fun. A base camp for scientists hundreds of kilometres from the nearest neighbour is inherently relatively primitive when it comes to shared accommodation, toilet facilities, freezing temperatures, and catering . . . but then came Patchy—with a bag full of the most perfectly ripened, juicy mangoes directly imported from India. They had looked so perfect and tempting that he thought he would bring the dessert.

I think this small anecdote tells a lot about Dr Pachauri, or Patchy as he preferred us to call him. We had to save the world from the worst consequences of climate change, and few have done more to bring home to the world's decision-makers the seriousness and the urgency of climate change.

But while doing that we also had to remember the small, good things in life.

Pachauri was tireless in his efforts. Always on the move. Always a new country, a new

city, a new hotel, a new audience to inform and convince. Through facts and findings. As chair of the IPCC he clearly felt it was his duty to speak up, to use all the opportunities that the platform gave him to get the dire message across to ever new crowds. Back in his time everybody in the climate community knew who was spearheading the IPCC. Patchy, whose appearance was a mixture of a scientist, a hippie and a yogi, was the world's climate science communicator no. 1. Luckily, under his tenure at the helm of the IPCC, the organization, thanks to a solid grant from private foundations, could expand significantly its communication work, which also was very much needed, as the forces fighting the climate agenda back then got ever more aggressive. The game was certainly not for the faint hearted. No doubt there were some tough years. It wears one down, to be travelling all the time, all the time to different time zones, communicating, fighting off the sceptics, and not to be too downbeat when the game gets rough.

But the reward was that finally the scientific case was undeniable, and in 2015 the world could convene around the Paris agreement. No one will deny that the IPCC has played a decisive role in bringing home to policymakers the seriousness of climate change.

Now that the scientific case has been broadly accepted, the spotlight is on delivering solutions. However, even now the sense of urgency is not always on par with the challenge. Therefore, Patchy's voice is very much missed today. How good it would be if he could yet pop up at the next conference making the case for action—with or without fresh mangoes.



Greenland Summer 2008: Connie, Friedman H and Patchy

Rajendra Pachauri: a joyful participant in the sorrows of the world

LANCE IGNON

Senior Associate Dean of Strategic Initiatives and Communication University of Southern California Dornsife College of Letters, Arts and Sciences

t was September 2014, and Patchy had just finished rehearsing a speech he would deliver the next day to the United Nations General Assembly about global climate change. He would be among august company: Secretary General Ban Ki-moon and actor/activist Leonardo di Caprio would also be speaking. The meeting, Climate Summit 2014, was heralded as a pivotal moment in the struggle to prevent climate change. You could forgive Patchy for being nervous, dismissive, even irritable.

Instead, as he left the dais in the imposing hall of the General Assembly, he walked up to me and, with a big smile, said, "Lance, it's so much fun working with you." I was flattered, of course. Here was the Chair of the Intergovernmental Panel on Climate Change, a man who knew scores of world leaders and corporate CEOs, telling his communications consultant that he enjoyed his company.

The feeling was entirely mutual. The fact is, it was fun working with Patchy. He laughed easily and wore his many burdens lightly. But the moment said something else about him: He was as happy to be friends with an obscure PR consultant as he was with a globally preeminent climate scientist or a prime minister. If you were his friend, he was yours.

If Joseph Campbell said that we should, "participate joyfully in the sorrows of the world", it was Patchy who lived those words. Even as the destructive power of climate change gathered its strength, even as world leaders failed to take the action required to meet the climate challenge, Patchy remained a hopeful warrior. There was always more that could be done in time to avert disaster. And we could build a better world in the process. He had no other choice. To accept that it was too late to avoid a climate disaster would have been too much for him. Perhaps it's too much for anyone.

Instead, he devoted every fiber of his being to inspiring action. He was plain-spoken about the peril that the science clearly said was coming. But he was never shrill, always charming—even though he quietly admitted how frustrated he was with the professional climate change deniers and those whose ideological blinders blocked any amount of evidence, even when it threatened to literally drown them. "They make me so damn mad", he once confided to me. How could they not when some of them had tried so hard to discredit him?

He was also ahead of his time. The press ridiculed him when he said becoming a vegetarian was the single most effective action one could take to stem climate change. Today, it is a widely accepted fact, with industry rushing to develop plant-based meat. And, of course, the dark warnings that he announced on behalf of the IPCC more than ten years ago were prescient, to say the least.

I miss my friend. I miss his humor, his optimism, his inexhaustible energy. (Ask anyone who traveled with Patchy. It was a first-class workout to keep up with him.) But we can all rejoice in the fact that he lived an outsized life, one full of accomplishment and joy that left everyone he knew a little better off.

Bringing climate activism to the World Academy of Art and Science

GARRY JACOBS

President and CEO, World Academy of Art and Science President, The Mother's Service Society

The World Academy of Art and Science (WAAS) is a forum for the world's leading scientists, artists, and thought leaders to address the pressing challenges confronting humanity and arrive at knowledge-based solutions. Founded in 1960 by eminent intellectuals including Albert Einstein, Robert Oppenheimer, and Bertrand Russell, the Academy discusses issues objectively, scientifically, globally, and free from vested interests or regional attachments, to arrive at solutions that affirm universal human rights and serve the common good of all humanity. It is founded on faith in the power of original and creative ideas – real ideas with effective power – to change the world.

The Academy is guided by the consciousness of the profound social consequences and policy implications of knowledge and approaches all its activities from a comprehensive and transdisciplinary perspective. We have among our distinguished members leaders in the arts, humanities, and the natural, social, and technological sciences. When Dr Rajendra Pachauri became a Fellow of the WAAS in 2008, he brought an unprecedented level of knowledge and experience into the vital dimension of environmentalism and climate activism. Later, as a member of the board of trustees, he brought the issue of climate change into sharper focus in the Academy's activities, leading to the establishment of formal cooperation between WAAS and the World Sustainable Development Forum and Protect Our Planet (POP) Movement, which he founded.

Dr Pachauri was a thinker as well as a scientist and a leader of science. A central pillar of the Academy's work is the need not only for new thinking but also a new type of thinking which is transdisciplinary and integrated in character: embracing the

full spectrum of disciplines, but seeking to find their common underlying principles and foundation in knowledge. One product of this was a transdisciplinary master's-level course Mind, Thinking and Creativity conducted at the Inter-University Centre, Dubrovnik, Croatia, in November 2017. Dr Pachauri was a keynote speaker at this course. His presentation, titled "Unraveling Complexity: problem of climate change", imparted a greater understanding of the nature of mind, its ways of knowing, the limits to thinking and rationality, mind's untapped potential, and the workings of creativity and genius—all of which are essential for addressing the challenges confronting humanity today. It showed that we have the means to limit climate change and build a more prosperous and sustainable future. Ambitious mitigation programs are affordable; in fact they are more affordable than unmitigated climate change. He was emphatic that the choices we make will create different outcomes, and relying on scientific knowledge combined with insightful leadership will help us overcome the climate challenge.

At Baku, Azerbaijan, in March 2019, Dr Pachauri participated in the launch of one of the most important projects undertaken by the WAAS, namely Global Leadership for the 21st Century, a two-year program conducted in partnership with UNOG, the United Nations Office at Geneva. The project sought ways to revive and develop catalytic strategies for more effective leadership at the global level to address critical issues such as climate change. Of particular importance was his emphasis on the need to mobilize and direct global social energies and resources, apply these practically to strengthen the effectiveness and functioning of existing institutions of governance, and release a broadbased social movement to transform the compelling challenges confronting humanity into catalysts for rapid global social evolution. The project culminated in two highlevel global conferences and a joint UNOG–WAAS report and became a catalyst for the emergence of dynamic leadership for global development and the implementation of SDGs, the UN Sustainable Development Goals. We regret that Dr Pachauri could not be with us long enough to see the results of the work which he helped give birth to.

WAAS recognizes the value of youth and youth participation in global decision-making and governance. In this, there has been a perfect alignment with the values of Dr Pachauri, who was among the first to recognize, honor, and nurture leadership of youth for sustainable development. He had invited WAAS to conduct a special consultative meeting with a large group of youth representatives whom he had called to participate in the World Sustainable Development Forum 2020 in March 2020 in Durango, Mexico. The conference was most memorable in that it attracted all those whom he had invited, in spite of his sudden departure just a few weeks before. And he would have been most gratified by both the attendance and the way in which his son Ash Pachauri and hundreds of members of the POP Movement carried on the conference just as he would have done had he been there. In his pre-recorded video message which was screened during the Valedictory Session, Dr Pachauri appealed to the youth to become leaders in bringing about a shift towards a cleaner, greener way of living. He inspired them to be guided by reliable knowledge. And he left all who knew him with this promise, "I will be with you all the way."

Patchy: the dedicated climate change warrior

LARS JACOBSSON

Founder and CEO, TEXEL

RAGCHILD JACOBSSON

Head, Corporate Social Responsibility, TEXEL

Then we were asked to write a few impromptu words about our dear Patchy, the first things that came to our mind were at first obvious and of course related to climate, dedication, and stubbornness ... Those were the characteristics that we all associated with Patchy. But when thinking one step further, those words turned into something else, namely humor, helpfulness, friendship, and kindness.

Getting to know Patchy was a quick journey that began with meeting him as Dr Rajendra Pachauri, chairman of IPCC, the Intergovernmental Panel on Climate Change, and the receiver of the Nobel Peace Prize on behalf of IPCC, and ended in true friendship with him as 'Patchy'. He was an inexhaustible source of knowledge, inspiration, and creativity, and he inspired us to do many things including The Climate Conference in Sweden together with Sir David Attenborough. Patchy always said, "Everything is possible".

Not all ideas from Patchy have been made into reality, but one day we hope to do so. When we were at the WSDF Climate Conference in Mexico City, and in the middle of planning the Climate AID conference in Scandinavia with Sir David Attenborough, Patchy asked to meet us for some 'brilliant ideas' for the upcoming conference. It was a busy week for all of us, and most of all for Patchy, who was hosting the conference in Mexico City. Finally, we found a time and a place to sit down to talk about the ideas that Patchy had. We were so excited; our heads and imaginations were spinning around the 'groundbreaking' ideas that might come out. After sitting down and waiting for what Patchy was going to say, he said, "What do you think about bringing some belly dancers to the Climate AID conference?" We all became silent for a few seconds and just looked

at each other and at Patchy who was dead serious until we all started to laugh—and we are still laughing. Absurd though it may have sounded, he was right 100%. We need to keep our humor, human values, and bravery to turn 'boring' climate conferences into something fun and energetic to get attention and inspire real change.

Patchy brought so much into our lives, and he made us believe that anything and everything is possible. He opened so many doors to us, and thanks to him, we still feel as if we are capable of walking on water.

We miss you a lot, Patchy, and we will continue our work to secure our planet for coming generations. We will work hard, but with a smile, keep joining forces, and we will keep up your spirit for as long as we can. One day we will meet again.

Remembering Patchy

PREM SHANKAR JHA

Former Information Advisor to the Prime Minister of India

he world's ready acceptance of the grim warning given by of the IPCC, the Intergovernmental Panel on Climate Change, in its Sixth Assessment Report, namely that the world had almost run out of time in which to prevent accelerating, and possibly uncontrollable global warming, which was released a few weeks ago, brought me a pang of sorrow, for it was a reminder to me that R K Pachauri – 'Patchy' to his friends and admirers – had not lived long enough to see the fruit of his labours. For if any one person had imbued the IPCC with the towering authority that it now enjoys, it was he.

Patchy was far too modest a person to make any such claim, but the Sixth AR's precise and unequivocal delineation of the precipice at whose edge humanity now stands, would never have been as unquestioningly accepted by the COP, the Conference of Parties to the UN Framework Convention on Climate Change, as it has been, had the ground for it not been prepared for it by his ten years of painstaking effort, as chairman of the IPCC, to overcome the scepticism about the threat from global warming that prevailed at the beginning of this century, and to create a consensus between nations with diametrically opposed economic and political interests on the need to adopt a common set of policies to arrest it.

The turning point in this came with the publication of the IPCC's Fourth Assessment Report in 2007 under his chairmanship. Aided hugely by the nearly simultaneous release of Al Gore's film, 'An Inconvenient Truth', it swung the scales decisively in favour of concerted global action to arrest and then reverse the build-up of CO2 in the atmosphere caused by the indiscriminate use of fossil fuels. For this profound achievement the IPCC and Al Gore deservedly won the Nobel Peace Prize in 2007. And in going up to receive it, Patchy gave India one of its rare moments of international acclaim in the post-Second World War world.

In the 120 years since the Nobel prize has been instituted, only 10 Indians have figured among the 904 individuals and 24 organisations that have received it. Of these 10, only five have received it for work done in India. And one of these was a lady of Macedonian

origin, Mother Teresa. Patchy was one of the remaining four. Rarer still, he was the only Indian head of an organisation that was awarded the Nobel Prize.

There is no award that does not provoke envy, and Patchy's Nobel Prize was no exception. For his critics Patchy was "not a real Nobel Laureate"; "It was the IPCC that got the prize!" they said. "Pachauri was only the courier who picked up the parcel." Few were aware of, or willing to recognize, the contribution he had made to the IPCC's work.

In a world that has become one large football stadium, in which everyone has an opinion, and has the right to express it, reducing the babble to a focussed discussion of policy and a coherent set of recommendations is perhaps the most difficult function any human being can perform.

Just how successfully Pachauri did this may be judged not only from the contents of the IPCC's Fourth Assessment Report, which shook the world out of its complacency in 2007, but from the fact that the world's leaders asked him to stay on and prepare the next report as well. It is largely thanks to him that the IPCC's reports have now become the gold standard against which to measure humanity's continuing delinquency in the face of approaching Armageddon.

To fully understand his contribution as its chairperson, one only needs to look at what went into the making of the IPCC's Fifth Assessment Report, which he released in November 2014. To ensure its comprehensiveness, clarity of message, and credibility, the IPCC first selected 831 experts, from 3598 world-renowned scientists, to be the Lead Authors, Coordinating Lead Authors, and Review Editors for its three working groups and its Task Force. The preliminary reports of the former were peer-reviewed by the latter before a final report was prepared.

The Lead Authors' reports had then to be synthesised into a single consolidated report, and that in turn boiled down into a Summary for Policymakers to which 192 governments would have to agree. Making them do so required an endless round of meetings not only within the IPCC but also between it and the governments of large and small nations, rich and poor nations, oil importers and oil exporters, all facing divergent domestic compulsions and under no obligation to give ground to accommodate the concerns of others.

It was a measure of Patchy's success that no major dispute ever surfaced over the contents of the Fourth and Fifth Assessment Reports, either between governments, or between scientists. Under his chairmanship, the IPCC adopted a policy of full disclosure. Its reports therefore disclosed the entire penumbra of results of scientific inquiries that surrounded its central findings including the upper and lower limits of the divergences in its text.

It also acknowledged the degree of congruence among scientists on issues by assigning levels of confidence – high, medium and low – to their central findings. It was for carrying out this Herculean task of reconciliation, of data, interests, and egos, that the IPCC received its Nobel prize.

This combination of tact, charm and innate fairness is what explains why he remained the head of the IPCC for the preparation of its Fifth Assessment Report, even after he came under a concerted, virulent personal attack from climate sceptics within days of the end of the Copenhagen Climate Summit in December 2009.

It began with an article published in the *Sunday Telegraph*, London, titled 'Questions Over Business Deals of UN Climate Change Guru Dr Rajendra Pachauri'. Two journalists, Christopher Booker and Richard North, alleged that Pachauri had been 'making a fortune

from his links with "carbon trading" companies and claimed that the money he had made while working for other organisations 'must run into millions of dollars'. Booker had earlier made his name as a co-founder of Britain's first and justifiably most celebrated scurrilous periodical, Private Eye, in 1961 and had made his reputation as a journalist who revelled in taking contrarian positions, often at the expense of truth and objectivity. Among other startling 'exposes' Booker had earlier insisted that neither passive smoking nor asbestos exposed human beings to the risk of cancer, and that Darwin's theory of evolution had been rendered obsolete by the theory of 'intelligent design'.

But the *Sunday Telegraph* was a widely read newspaper and virtually a bible for the right wing of the conservative party in Britain. As a result, an array of environmentalists and policymakers urged that there should be a 'rigorous enquiry'. These included John Sauven, the director of Greenpeace UK, who bluntly demanded that Pachauri be replaced as head of the IPCC.

This was only one of an entire battery of attacks upon scientists and institutions studying climate change. Significantly, not a single government or leader came openly to the defense of the scientific community, or of Patchy. Ed Miliband, the then British minister for the environment, hastily admitted that 'mistakes have been made'. Gordon Brown, the British Prime minister, chose to remain silent. So did Obama across the Atlantic.

Patchy's response was typical of him: he first ignored the attacks, and called Booker's allegation 'rubbish', and then quietly submitted both his personal finances and the accounts of TERI, The Energy and Resources Institute, which he headed in India, to audit by the noted international accountants firm KPMG, Klynveld, Peat, Marwick & Goerdeler. KPMG's report, published on 26 August 2010 in the *Guardian*, showed that all of the consultancy fees that Patchy had been earning had gone directly into TERI's account and that, contrary to the usual practice in research and teaching institutions worldwide, none of it had been retained by him. Pachauri had received only his annual salary of £45,000 a year (Rs 2.8 lakh a month in 2009). This was less than what editors of major newspapers in India were earning at the time. His additional income from outside earnings over the previous 20 months had amounted to a paltry £2174! George Monbiot, the celebrated environmental columnist of the *Guardian* had been so struck by this revelation that he devoted an entire column to this finding.

To me these muckraking allegations had been absurd from the start, because I had experienced a side of his personality that only those who had worked closely with him had been privileged to see. This was an absence of ego and generosity of spirit that allowed him to foster talent in his co-workers, and recognise value in the work of others, without ever feeling threatened by it. In the years since he resigned from the directorship of TERI, this has been a constant refrain in my talks with those who had worked under him. But I became a beneficiary of this quality in him almost two decades earlier, when my own career as a journalist had come to a bend on the road.

I met Patchy for the first time in 1983 at a TERI conference on energy conservation and the role of bioenergy he had organized in Jaipur. It was a fruitful conference that resulted in a pleasant encounter that did not blossom into a full-fledged friendship mainly because his directorship of TERI and membership of the board of the Washington-based International Association for Energy Economics made him increasingly absent from Delhi.

But Patchy did not forget me or my work on alternative energy. For one day in late 1987 or early 1988, I received a call asking me to send him three of my columns on energy

and the environment that had been published in the *Times of India*. I happily agreed but having been in the middle of writing a column, forgot about it till he called and asked me again a few weeks later.

When I asked him why, he explained that he wanted to enter me for the Energy Journalist of the Year award of the IAEE, of which he was then a board member (and later President). I complied, but again forgot about it till one day, some three months later, Patchy called me again and informed me that I had won the award for 1988, and would need to come to Luxembourg for their annual general meeting to receive it.

The news gave an enormous fillip to my spirits because by then I had not only resigned from the *Times of India* but also, after only a short stint, from the editorship of the *Hindustan Times* for ethical reasons, and was trying to rebuild a career solely as a columnist. But what was even more uplifting than the award was Patchy's palpable, unconcealed, pride at an Indian having received it and at its having been a unanimous decision. "There were six members in the jury from different countries. Five of them had voted for you", he told me with satisfaction oozing from his voice. "One had wanted it to go to another candidate who, if I remember it correctly, had written on some facet of the oil economy, but the others persuaded him to change his mind and make it unanimous. What did it," he concluded, "was your article on pressure cookers, and your estimation of how many trees giving one free to each family would save in the Himalayas."

In the years that followed, as his career became increasingly international, I lost touch with Patchy. But I never felt surprised by his success. While envy drove many to look for flaws in his personality to explain his success, I had been privileged to know its secret, and benefit from it, from very early in his career.

It was his possession of that rarest of human qualities: the ability to recognise talent and ability in others without envy. Where did this most precious of qualities come from, what character traits and upbringing did it require? I have found only one answer: a deep understanding of himself, not only his strengths but also his limitations, and a generosity of spirit, that made it possible for him to harness the strengths of others, and thereby promote their careers, without feeling that this would somehow undermine his own.

Tragically, a second attack on his credentials, this time based upon the only issue on which a man is presumed guilty long before he can be found innocent, not only prevented him from making his contribution to meeting the most serious challenge that humanity has ever faced – that of Climate Change – but also shortened his life. I shall never cease to regret this and feel the loss of the contribution he could yet have made.

A lifelong friend

JINFENG ZHOU

Secretary-General, China Biodiversity Conservation and Green Development Foundation

r Rajendra Pachauri and I happened to cross paths by chance. During those years, we conversed about climate and environmental problems and built a deep and memorable friendship.

I recall that we first met in July 2018 to speak about the future of collaboration and the contribution of young power to the world. Dr Pachauri said he had spent 20 years at the IPCC, the Intergovernmental Panel on Climate Change. As a result, he was well aware that young people are our and the world's future. The future world will inevitably vanish if environmental education is not given. We had a deep resonance right from our first meeting, established a partnership, agreed to host the World Forum on Sustainable Development and the Forum on Sustainable Development Education jointly, and signed a memorandum of understanding.

His decades-long contribution to environmental preservation has always fascinated and inspired me, and this is just what the CBCGDF, the China Biodiversity Conservation and Green Development Foundation, has been doing.

CBCGDF is an independent public foundation and an environmental non-governmental organisation (NGO). It is still involved in global environmental policy, international communications, and environmental education for the general public. Pangolins, Yangtze river dolphins, and Tibetan antelopes are among the endangered animals and environments that it has helped to preserve. As China's leading biodiversity body, the CBCGDF is also committed to advancing the creation of an ecological society.

I met Dr Pachauri again in Beijing on the evening of 13 September the same year. We had discussions about global climate change and sustainable development, and we looked at the viability of green poverty alleviation initiatives in China, with renewable energy development as a central theme. During the meeting, he gave me a copy of the Comprehensive Report on Climate Change 2014, which he had edited whilst working as the chairman of the IPCC.

Dr Pachauri and I often exchanged views on global climate change and how to improve

the likelihood of Sino-Indian collaboration in renewable energy because we shared a concern about it. He once gave me a detailed introduction to a green poverty alleviation project he launched in India to promote clean energy as the core. According to him, before they started the project, the village was lit by kerosene lamps, and the people lived in poverty. Dr Pachauri's project was to establish a small project operation center in this village, with a local woman in charge of day-to-day operations, and then the project team will provide free solar panels and solar lights to the villagers. The villagers delivered the solar lamps to the local project management point during the day, and the project manager was responsible for charging them. The villagers used the lamps at night and returned them the next day. This project's total cost, only a few cents, was both low and environmentally friendly. Dr Pachauri hoped that the CBCGDF would cooperate to advance the project's progress in China. This piqued my interest, and I've been researching and working hard to promote similar public welfare programmes in China's remote areas, including islands, plateaus, and mountainous regions. This poverty alleviation model focused on green and sustainable development can also benefit Chinese rural areas and farmers.

Dr Pachauri also sent me a letter a few days before the New Year of 2020, urging our foundation and other communities to act in unity while taking an inclusive, empathetic, and intergenerational approach to creating a stable and sustainable future for the earth and all its inhabitants.

The world has admired Dr Pachauri's lifetime contributions to the cause of global environmental protection and climate change. China Biodiversity Conservation and Green Development Foundation expressed its deep condolence over the passing away of Dr Pachauri. We will not forget our original intention and will move forward with the spirit of Dr Pachauri.

The privilege to get to know a Master's life

JOSÉ ERNESTO BERMEJO JIMÉNEZ

A Mexican nonprofit legal advisor

In 2017 I had the honor and privilege of meeting Dr R K Pachauri in Mexico City, thanks to my good friend Dr Adrián Fernández Bremauntz, who invited me to communicate the legal and fiscal implications of the birth of an NGO in Mexico that would be called 'Movimiento POP México'.

For my work and professional development, offering legal advice to such a global and important figure and thus smoothening his administrative path by putting my knowledge and my very being to serve, was a real privilege and honor. This position allowed me to meet Dr R K Pachauri on several occasions in his beloved Mexico and now I will try to recount some anecdotes that reflect the great personality and in turn deep simplicity of the great Pachy, as I knew his friend Adrian called him.

One day in the spring of 2019, Dr Pachauri invited me to dinner in Coyocán. That day it was raining heavily, and he suggested we walk to the place Los Danzantes, in the town of Coyoacán. For me, all his decisions were the fruit of his wisdom. In other circumstances I would not have allowed my guest to get wet, but the falling water was not cold and living the experience of walking and getting wet to get to the restaurant, next to someone so pleasant and who enjoyed every moment so much, was an experience worth living. We got wet, because it was a walk of several blocks and when we got to dinner, he smiled like a kid who had just done a mischief. And accompanied by his big smile he said, "It is good to feel the water on our heads, on our body, and it is good to take food to warm up again." It was all about learning from the wise man at that moment. For anyone else of his age and condition, that moment would have been a source of disgust, because we had really got soaked, but for him it was offering thanks to life for enjoying that experience and allowing one to enjoy it with him.

At that dinner I had the privilege of witnessing his passion for the urgency of making the whole world aware of the consequences of climate change and the responsibility of large economies to mitigate that suffering of our planet. He shared with me that he was investigating the best way for developing countries, through international litigation, to demand from the large economies a significant economic compensation for the damage caused to the environment by climate change and the impact on the poorest countries and the natural disasters that affected them most strongly.

We also talked about his love for Mexico. He told me about his great experience of staying in Cuernavaca and that his plan was to be able to buy a house and live there and continue working for the world from that beautiful and pleasant place. He confessed to me that he was fascinated by Mexican food. Enter the market and buy nopales, freshly made tortillas and eat them with black beans and assorted sauces. Amazing to see how a man who had traveled so much around the world described as an excellent ambassador about our cuisine and our cultural roots.

Thank you, Dr R K Pachauri, we will work to honor your legacy.

Memories of Patchy

ANIL KAKANI

Managing Partner, Vikasa Holdings LLC

It is a great privilege, though with a healthy dose of sadness, to be adding my few words to honor the passing of our beloved Patchy. I had the pleasure of first meeting Dr Pachauri in 2000 when I was a legislative assistant to the then-Senator Hillary Clinton. A friend brought Patchy to our offices to brief us on the fabulous work TERI was doing to develop and promote modified mustard seeds to help children and pregnant and lactating women with Vitamin A deficiency. I had no idea what an amazing individual I was meeting, or that I, and my entire family, would have the good fortune of developing a deep and lasting friendship with him over the next 20 years.

I learned so much from Patchy as our friendship and work relationship grew— about the environment, sustainability, consensus building, people, and the world generally. During a 5-year period when I was traveling to India from the US almost every month related to work, a highlight of so many of my trips was a meal or a drink with Patchy. I would always drop him a message after landing in Delhi; if he wasn't off in some other corner of the world, he always carved out time to meet, or would simply take me along to some dinner or reception he was attending. I recall vividly the first time my kids met Patchy when we went to his family's beautiful home in Delhi. They were thrilled to meet this gentle soul who was a Nobel-Prize winner on behalf of the IPCC and who could converse for hours about cricket, US politics, trekking in the Himalayas, or just about anything. My family and I had the privilege of hosting and spending time with him in the various cities we lived in, Washington, DC; Ithaca, NY; and Los Angeles.

After I joined the board of TERI - North America, we often exchanged notes on personalities in the US and Indian political worlds who could be allies for our efforts to build a more sustainable future. His knowledge of the world and his persistence in making it better always amazed me—the man worked non-stop to educate and advocate for policies to reverse the climate trajectory we are on. But as he worked, he was never too busy to stop and spend time with you. And he almost always did it with a smile and an embrace.

So much of India's beauty was shared with me through Patchy's lens —from a visit to

TERI's center in beautiful Mukteshwar and seeing the impact of TERI's Lighting a Billion Lives initiative in Bikaner, to seeing tigers in Corbett National Park or doing *aarti* on the Ganga in Rishikesh. Patchy was quick not only with recommendations, but also with a phone call to a friend who would make sure our visit was as promised and without a hiccup.

Needless to say, Patchy has had a tremendous impact on me—on my understanding of our world and its natural resources, but especially with the important life lesson that meaningful change requires hard work and persistence. I have many memories of Patchy that I will cherish. I certainly miss him, but am forever grateful for the positive impact he left on the world around him.

Tribute to Dr Rajendra Kumar Pachauri

MADHAV B KARKI

Chairperson, National Trust for Nature Conservation and Distinguished Fellow, Centre for Green Economy Development, Nepal and Vice Chair (Asia), IUCN Commission on Ecosystem Management

met Dr Rajendra Kumar Pachauri in 1995 while I was working in the South Asia' Regional Office, New Delhi, of IDRC, the International Development Research Centre 🔔 Canada. In my very first meeting itself, I realised that I was meeting a high-caliber and visionary professional leader, environmentalist, and a gentle human being who exuded profound energy, possessed innovative ideas, showed impressive confidence, and generated immense enthusiasm to protect, preserve, and manage our environment and natural resources for the good of our people—locally, regionally, and globally. Those were the days when Delhi was experiencing very high pollution levels mainly due to sudden explosion of fossil-fuel-burning vehicles and existence of traditionally existing polluting industries within the boundary of India's fast-growing capital city. Having been born in the lap of the Himalayas - Nainital - I could understand Dr Pachauri's concern for the deteriorating environment in the cities and the degrading ecology of the Himalayan mountains due to increasing pollution, population pressure, and general lack of awareness on the value of the ecosystem goods and services. He was keen to draw the attention of the Himalayan nations and people dependent on mountain ecosystem services to this long-term problem. It was very clear to me that his cherished desire was to do some long-term result-oriented work for the conservation of Himalayan environment and ecology. I felt fortunate to have met such a multi-dimensional personality that Dr Pachauri was in my early and developing professional career. I immediately decided to work with him by joining, supporting, contributing to, and facilitating his mission to save the Himalayan ecosystems so that this precious gift of nature remained available not only for our generation but for many generations in future to enjoy and benefit from.

We talked about how we could work together. I clearly remember Dr Pachauri advising me to start working on a small project in the areas of natural resources management focusing on water, forest, medicinal plans, and community mobilisation. If I remember correctly, TERI was working on issues related to forestry and watershed management in protecting the Shiwalik hills in Haryana from unsustainable mining and stone quarrying. The success story of Sukho Majri village was inspiring everyone to work on the urgent issues of protecting the fragile foothills of the Himalayas that stretch from Pakistan to Assam. Inspired by Dr Pachauri's vision of managing the natural resources in the Himalayas sustainably, IDRC Canada, jointly with the Forest Research Institute, Dehra Dun, launched a regional project on the eco-development of the Himalayas that I coordinated. We carried out many successful community-based eco-rehabilitation and watershed management projects in the mountain regions of India, Nepal, and Bhutan.

I was fortunate to witness the rapid rise and transformation of TERI working from a few rented buildings in Jor Bagh colony to the new and sprawling IHC complex—the India Habitat Centre the construction of which itself reflected the mission and the vision of Dr Pachauri. The green and energy-saving ambiance of the IHC, developed partly under the guidance of Dr Pachauri I believe, nurtured and harnessed the innovative skills and untapped talents of over a thousand young and experienced staff of TERI under the guidance of Dr Pachauri. TERI flourished and became a globally sought-after institute from its modest local beginning in Mumbai. Dr Pachauri's election as the chair of the IPCC was a well-deserved recognition of his unique leadership quality, knowledge and convening power—not to mention the outstanding accomplishment of developing a world-class centre of research, education, and learning in the form of TERI and its sister institute, namely the TERI School of Advanced Studies (TERI University). No doubt, in TERI's phenomenal success, Dr Pachauri's role is indisputable and evident in the form of a global network of learning and research-based knowledge library and centre of excellence that TERI has become today.

After moving from IDRC to ICIMOD, the International Centre for Integrated Mountain Development, Kathmandu, as its Deputy Director General (Programme) in 2005, my association with Dr Pachauri grew even deeper and larger. ICIMOD's focus on saving the mighty and lofty Himalayas from the menace of climate change, and Dr Pachauri's personal mission of protecting the Himalayan mountain environment to ensure food, water, and energy for the well-being of close to 1.5 billion people of South Asia and beyond aligned very well. As the head of ICIMOD's Strategic Initiative, I started having regular and productive communication with Dr Pachauri to develop a vibrant and productive partnership between our two great institutions to work together on climate change and sustainable development issues, challenges, and, more important, solutions. I coordinated a highly awaited visit by Dr Pachauri to ICIMOD in 2010 during which he delivered a keynote speech to an audience that comprised both ICIMOD staff and prominent invitees from Nepal and other countries in the region. During his visit, he also met Nepalese leaders in politics, academia, and development and impressed upon them the need to work together on protecting our common heritage, the Himalayas.

As the convener of the first ever Mountain Day organised as a side event of the COP 17 of the UNFCCC in 2011 in Durban, South Africa, I extended a special invitation to Dr Pachauri to deliver the keynote speech. As expected, he delivered a bold and meaningful speech in which he said that "mountains experienced above-average warming in the 20th century" and indicated that this was likely to continue. He encouraged focusing on decreasing vulnerability and exposure to disasters, and increasing food and water security for downstream populations and agriculture, especially for those with low

adaptive capacity. He continued, "Half a billion people in India, and a quarter billion in China, are dependent on the Himalayas for water", and warned that due to "increased glacial melting, the Ganga, Indus, and Brahmaputra rivers could become seasonal in the near future."

Dr Pachauri's love for the Himalayas brought him to Nepal again, in 2012, to be the keynote speaker and moderator of ministerial panel discussion on mainstreaming climate change in mountain development. He was famous for excelling on such occasions and facilitated the high-level policy discourse with excellence and provided a succinct summary of the discussion.

Dr Pachauri said that climate change had brought enormous opportunities as well as challenges and summarized the general issues faced by the mountain communities as follows. a) Since women are the first and direct victims of climate change, they should be given a special role in defining the actions for dealing with climate change. b) Mountain ecosystems are isolated but related to other ecosystems were more diverse due to their extreme verticality. c) Mountain countries, therefore, should opt for a network or alliance similar to that forged by the small island states to raise their voice to ensure that they are heard. d) Climate change has effects on health, livelihood, and biodiversity and will have implications for the downstream communities as well. Therefore, adaptation and mitigation need to be articulated for supporting climate-proofing of the downstream communities. e) Green growth is needed to protect natural resources, which, in turn, would protect the lives of the people dependent on them. f) Adaptation (at the local level) and mitigation (at the global level) should go hand in hand.

True to his commitment to the mountains, Dr Pachauri never stopped highlighting the disproportionate amount of vulnerability faced by the Himalayan mountains due to the impacts of rising climate change. He was kind enough to invite me to attend many WSDS, the World Sustainable Development Summits, which allowed me to learn from Dr Pachauri's leadership, inspiring speeches, and very humble personality. He would always find time to meet me and listen to my story and always encouraged me to spread the wings of TERI to Nepal. I did follow his advice and have established an organization by the name of the Centre for Green Economy Development, Nepal (www.cgednepal. org) to develop collaboration and partnership with TERI so that the vast knowledge and experience gathered by TERI scientists and professionals could benefit the people of Nepal while protecting our common heritage, the mighty Himalayas.

It was a great privilege and honour to have known and profited from the knowledge and leadership of Dr R K Pachauri. He was truly a mentor, a guide, and a source of inspiration for me. He was also a friend I could call upon any time to seek his help to do my job better, get guidance from him to address complex issues I would be trying to find answers to. While he always listened to me patiently, he was very kind to provide practical and solution-oriented advice. He had proposed a number of joint projects to address the environment- and climate-change-related problems in the Himalayas, specifically the Sivalik's, through joint efforts and participation of India and Nepal. However, that dream of mine still remains to be fulfilled for which I am still committed and look forward to working with TERI and POP, the Protect Our Planet movement that Dr Pachauri established to continue his mission of saving our common heritage, the Mother Earth.

In closing, I truly believe and want to follow Dr Pachauri's wisdom that advises us professionals to deal with climate change through community and people-based actions,

driven by knowledge about the problem and its solutions. I express my desire to join the POP movement that Dr Pachauri created by developing cross-border and regional partnerships that include TERI, my organization, namely the CGED-Nepal, and others so that we can inspire, guide, encourage, and support our youth, especially girls, to come forward and mobilise the whole community to launch grass-roots level movement to protect nature by promoting nature-based solutions.

Down memory lane

VIJAY KELKAR

Vice President, Pune International Centre, Former Secretary, Finance, Petroleum and Natural Gas, GOI

met Dr Rajendra Pachauri, fondly addressed as Pachy, in the early seventies when Dr Balwanth Reddy, the then Principal of ASCI, the Administrative Staff College of India, invited me to Hyderabad to deliver a lecture. Although formally on the faculty of the college, I was on two years' leave of absence and was working in Delhi at the Planning Commission with Prof. Sukhamoy Chakravarty. Prof. Chakravarty, one of India's great economists, was the member of the Planning Commission in charge of its formidable perspective planning and economic divisions.

I met Pachy, who had recently joined ASCI, at the faculty lounge during a tea break. As soon as he found that I was, like him, an engineer-turned-economist, he warmed up and invited me to his home for a quiet meal. There I met the gracious Saroj Pachauri, undoubtedly the better half of the family! With their Hyderabadi shower of gracious charm and warm hospitality, Pachy and Saroj owned me for ever!

I did not meet him again until he moved to Delhi. While Pachy left ASCI to move to Delhi to set up TERI, a new and independent policy research and action institution, I resigned the faculty position I held at ASCI and continued to work in Delhi with different ministries of the government but with intermittent assignments abroad with such international organizations as the UNCTAD, the United Nations Conference on Trade and Development, in Geneva between the years 1981 and 1982 and between 1991 and 1994 and in Washington, DC, with IMF, the International Monetary Fund, between the years 1999 and 2002.

I left Delhi in 2005 after completing my assignment as Adviser to the then Finance Minister of India, Mr Jaswant Singh. In my more than 25 years in Delhi I could deepen my relationship with the Pachauri family. Along with my wife, Lata, and our daughter, Sujata, we three were adopted by Pachy and Saroj as part of their extended family.

During all my years with the government, Pachy and I continued to collaborate on promoting knowledge-driven policies in the fields of energy and environment. In the early eighties, Pachy from TERI and I then from the Ministry of Petroleum, started a series of 'Rambagh' dialogues on energy policy by inviting a mix of national and international experts and policymakers. The first in the series was held in Jaipur at the Rambagh Palace hotel. Pachy was keen that we should meet outside Delhi not only to ensure uninterrupted participation by the government officials but also to put energy and environment related issues on the radar of the state governments and the state-level media. Of course, being mindful as ever of costs, he got me to agree to schedule these dialogues during the hot summer months as the Rambagh rates then were the lowest and thus affordable. Ms Afsaneh Mashayekhi Beschloss, a leading energy expert from the World Bank, was one of our important collaborators in these efforts. She had just come out with a book, Blue Gold, dealing with the emerging trend of the growing role of natural gas in the global energy mix and thus in global energy trade. I do believe our Rambagh dialogues contributed to fructify a number of important policy and institutional initiatives in India towards accelerating the development of the natural gas sector.

During my stint with BICP, the Bureau of Industrial Costs and Prices, with the help and encouragement from Pachy and TERI, we conducted comprehensive energy audits of such major industries as steel, cement, and tyres and came out with incentive-compatible programmes towards improving energy efficiency. In the field of environment protection, the BICP undertook a pioneering water audit study of India's process industries. As it was the first such initiative for the BICP, we took help of India's greatest chemical engineer, Prof. M M Sharma, the then Director, University Department of Chemical Technology, Mumbai. He readily deputed one of his senior faculty members to assist the BICP. Another pioneer on the environmental studies front who helped us designing this study was Pachy. The conclusions of the study were startling. They showed that organizations that invested in water conservation and pollution control were more efficient and profitable than their competitors. In other words, environment protection and water conservation were a win-win for the shareholders! Armed with this finding, the BICP proposed incentive-compatible regulatory policy measures. To me, this work has been one of the highlights of the BICP's modest contribution to India's industrial economy.

On Rajiv Gandhi becoming the prime minister, both Pachy and I felt that his talks about India taking up the challenges of the 21st century may bring a new dawn to policy-making and we both were excited. To contribute constructively to this call of the prime minister, we thought one way of doing it would be to create a policy research group to bring the younger generation together. We set up and registered a new think tank, called 'Twenty-first Century Foundation', under Pachy's leadership. Mr Gopi Arora, one of our best intellectual civil servants and then the secretary to the prime minister, not only encouraged us but also ensured that the prime minister read our policy papers. We persuaded Madhavrao Scindia to be the chairman of the foundation. Within three months we submitted to the prime minister a number of policy papers covering some of the key reforms areas. His response to our proposals was positive. Alas, after a year or so, we saw diminished interest in receiving policy proposals: perhaps they were considered too 'market friendly' by an influential wing of the government.

Soon on my return from Geneva, in September 1994, I was appointed as Secretary, Ministry of Petroleum and Natural Gas. Within a few weeks of my joining, with the approval of my very supportive reformist minister, Capt. Satish Sharma, a high level 'R' group was formed to help the ministry to undertake restructuring and reforming of India's petroleum and natural gas industry so that our petroleum sector becomes global,

internationally competitive, and vibrantly innovative. Naturally, Pachy was one of the influential members of this high-level group. The R group gave us a well-thought-out road map for reforms. This was readily approved by the then government and it was also more or less followed by the successive governments.

After my stint as Secretary, Finance, I went to Washington in 1999 to the IMF as India's representative. I used to meet Pachy when he visited USA in connection with his growing commitments with work on climate change. He was working on that assignment as a missionary for promoting global good. One could not but marvel at his almost infinite energy and professional commitment. My family and I were mighty happy and proud of his growing global stature as exemplified by the IPCC, of which he was the head, sharing the Nobel Prize with Al Gore.

After returning from Washington, our meetings over the meals to watch cricket continued. Drinking a great red wine with the meal was the most pleasant part of these dinner meetings! As my professional work now related to more mundane matters such as tax reforms and the design of the goods and services tax, it did not excite him too much. Of course, he never stopped telling me how important it was for our country!

In 2005, Lata and I shifted first to Mumbai and later on to Pune; consequently, the frequency of our interactions with Pachy and Saroj waned. For me and Lata, the loss of intimacy with him and Saroj post our move to Pune and the consequent inability to offer any effective help in their trying years have been the source of great anguish and despair. I now draw on my strength from the wonderful memories of his generosity and his warm friendship.

Essay in memory of Dr R K Pachauri

BAN KI-MOON

8th Secretary-General of the United Nations

uring my 10-year service as Secretary-General of the United Nations, I was incredibly fortunate to have met and worked with so many talented leaders from all around the world, including those from varied political, business, scientific, and civil society fields.

Notably among them, the late Dr R K Pachauri stands out and is still vivid in my memory. Indeed, he was one of the most passionate, vocal, and persuasive proponents of raising awareness and advancing the global fight against climate change. I am of the view that he was among the most important global leaders in the fight against climate change this world has ever seen.

I am proud to have prioritized climate change and elevated its importance to the very top of the international agenda during my tenure leading the UN. In doing so, Dr Pachauri naturally was one of the most important and invaluable supporters of my vision already working at the forefront of environment issues. On numerous occasions, I had the pleasure to meet and learn from him as we actively discussed how the UN could mobilize the political will of global leaders to take more decisive action in the spiraling fight against climate change.

The IPCC, or the Intergovernmental Panel on Climate Change, established by the UN in 1988, was the most eminent, responsible, and knowledgeable organization when it came to climate issues. As Dr Pachauri was leading the IPCC with distinction as its chairman, he was the most important person for me to work closely with. He had been providing the most prominent scientific assessments and guidelines on what the global community needed to do in order to holistically address the rapidly worsening scourge of climate change, as well as how to do it.

At the invitation of Dr Pachauri in his capacity as chairman of the IPCC, I had the honour to participate in the IPCC conferences where the 4th and 5th Assessment Reports were released in 2007 and 2014, respectively. On each occasion, Dr Pachauri made

particularly memorable, strong, and impassioned appeals to the world's leaders to take urgent action in order to address escalating climate change issues and keep our planet earth sustainable for our succeeding generations.

Indeed, Dr Pachauri was the strongest advocate for the UN's Herculean efforts to forge a successful climate deal in Paris in 2015. I am thankful that one of his key reports served as the bedrock for the finalized version of the Paris Climate Agreement—one of the UN's most important achievements, and one of my proudest personal achievements as Secretary-General.

The Paris Agreement, signed by 195 countries in 2015, offers us a clear game plan to confront the serious climate threats to our planet. And all global citizens, whether they knew it or not, were lucky enough to have Dr Pachauri as a strong and principled advocate for them, humanity's future, and our shared planet.

Dr Pachauri never missed any conference on climate issue and always conveyed the most powerful, inspiring, and convincing voice for the common cause on which we were collectively working together.

I'm lucky enough to have counted Dr Pachauri not only as a colleague, but also as a friend. As a private citizen, I shared a memorable dinner with Dr Pachauri on 10 July 2018 in Singapore. At the time, I found him still extremely passionate on climate and energy issues, and he graciously explained what he had been doing with his time even though he had retired from IPCC and TERI, The Energy and Resources Institute, India.

Sitting there in Singapore, I promised him that I would participate in one of the upcoming conferences that he was planning to organize on climate issues. Unfortunately, I did not have the faintest idea that he would leave us and the earth that he held so dear so soon, and that it would be the last time I saw him.

I firmly believe that the world needs more leaders like Dr Pachauri. A leader who led the IPCC to win, together with Al Gore, the Nobel Peace Prize for the panel's pioneering work, Dr Pachauri, time and time again, demonstrated his exemplary leadership to ensure that our singular planet and succeeding generations can continue to live harmoniously in an environmentally sustainable world.

With this in mind, let us continue to find inspiration from the vision, brilliance, and passion of Dr Pachauri! I am confident that this is our moral and political responsibility in the days, years, and decades ahead.

Dr Rajendra Kumar Pachauri: preeminent advocate for actions to tackle climate change and promote sustainable development

MASANORI KOBAYASHI

Sustainability Researcher, Japan

met Dr Rajendra Pachauri for the first time about 15 years ago or so when he came to attend a board meeting of the research institute in Japan where I was working at that time. I vaguely recall that I greeted him and he appeared to me very energetic, but he was very gentle and sensible in speaking at the board meeting. My memory is much clearer about Dr Pachauri speaking at the International Conference on Environmental Education held in Ahmedabad, India, in November 2007. I travelled to Ahmedabad for the first time. Just a day before the opening of the conference, I was guided to visit a stepwell built in the 15th century, which has since been recognized as a UNESCO World Heritage site in 2017. It was just a month later when an announcement was made that the Nobel Peace Prize was awarded jointly to the IPCC, the Intergovernmental Panel on Climate Change and Mr Al Gore, acknowledging their outstanding work on climate change. Dr Pachauri - the then Head of the IPCC - was introduced with a huge roar of applause at the conference and he delivered a passionate speech advocating concerted global actions to mitigate climate change and promote sustainable development. He quoted Mahatma Gandhi, saying that "You must be the change you want to see in the world."

At the technical session, I presented the work of my institute to promote nature conservation and stakeholder empowerment in Asian countries. My trip to Ahmedabad was very fruitful and rewarding as I had a chance to listen to Dr Pachauri, chairman of IPCC, the 2007 Nobel Peace Prize laureate, and observe his interactions with other speakers. The stepwell was also very inspiring because it had been built by a ruler to provide locals with access to water and coolness in a dry and hot climate. The stepwell was an exemplar of a ruler cognizant of the local people's needs deciding to invest in a long-term measure for the benefit of people

I was managing a very well-designed program at the institute at the time. The program was intended to foster innovative approaches in pursuing effective environmental

management and sustainable development in Asia and the Pacific. It was supported by a group of eminent people, and the program consisted of policy dialogues, small grants for supporting innovative actions, awards, case studies and strategic research on environmental management and sustainable development. Dr Pachauri was a member of that group, along with other former environmental ministers and leaders of the countries in Asia and the Pacific. I was organizing the annual meeting in Nanao city, Ishikawa Prefecture, in the summer of 2009. The annual meeting was held at a hotel facing Nanao Bay in Noto peninsula. The meeting was combined with a public symposium held at a theatre in Nanao city. The theatre is very famous, and Mr Tatsuya Nakadai, renowned actor and director of the theatre company, has been the Honourable Director of the theatre since its establishment. Dr Pachauri was a keynote speaker at the symposium, followed by panel discussions with prominent experts, and an actress and a photographer. A poster featuring Nanao Bay was very beautifully done. The profile photo of Dr Pachauri was in the middle of the poster with a reference to the 2007 Nobel Peace Prize laureate. A big crowd was expected to come and the media were also planning to cover the event. I arrived in Nanao city a few days before the meeting. Then at night, I received a message from the office of Dr Pachauri that he was unwell and would be unable to make that overseas trip and needed to cancel his trip to Japan. We could not create a vacuum in the program. We had to avoid disappointing the audience and the media, who had planned on coming to attend or to cover the symposium with high expectations of the lecture by the Nobel Peace Prize laureate and a global authority on climate change. His staff and I worked on a half-hour-long presentation recorded on video, and the file was transmitted from India to Japan. It was a very large file and took a night to download. I finished editing work early in the morning just a few hours before I was departing for the theatre. In the video, Dr Pachauri sent his personal greetings to the members of the eminent-persons group, other representatives, and the audience. His lecture on climate change tailored specifically for this meeting was the most striking, consistent, and comprehensive presentation on climate change, its possible impacts, required measures, and concerted actions from global and long-term viewpoints. I am grateful to Dr Pachauri and his staff for producing such a video and making it available on time to the participants at the public symposium.

In 2010, I travelled to Cancún, Mexico, to attend the 16th session of the Conference of the Parties to the UN Framework Convention on Climate Change. I was a speaker at a side event for which Dr Rajendra Pachauri was the chair. I was given a seat next to him. I was presenting policy measures such as those by the local government in Japan that require private businesses to monitor, record, and report on energy use and possible replications of such measures overseas. Dr Pachauri was engaged vibrantly with the panelists. I was photographed with him on the stage which was included in the report published on the internet.

I had on a few other occasions met Dr Pachauri in Japan and in other countries. In July 2017, I was asked to attend a breakfast meeting in Tokyo where Dr Pachauri was meeting a prominent Japanese expert on energy policy. The discussions were on energy and climate mitigation policies in major countries. Dr Pachauri was referring to the nexus between climate and the oceans. Mitigating climate change and protecting the ocean are two sides of the same coin and underlined the need to work for both, namely mitigation of climate change and protection of the marine environment. Since then, I used to receive emails from him for a few years about the international conference he had been planning

to invite prominent persons and undertake discussions on sustainable development, climate change, and ocean protection. Dr Pachauri had also expressed his readiness to come to Japan to attend any meeting to address the nexus between climate change, ocean protection, and coastal resilience development, particularly in areas affected by the 2011 tsunami in Japan. We had received an invitation to the WSDF, the World Sustainable Development Forum to be held in Durango, Mexico, in March 2020. I was thinking of attending but it turned out that it was not possible because of a conflict with compelling prior engagements. On 14 February 2020, I learnt that Dr Pachauri had passed away. He must have achieved so much, but I know that he was still in the middle of his journey to achieve his ambition to bolster actions to mitigate climate change, protect the oceans, and promote sustainable development. I was pleased to learn from the report that the participants of WSDF 2020 addressed climate change, sea-level rise, and marine pollution. I pay tribute to Dr Ash Pachauri for continuing the efforts to fulfil the ambition of Dr Rajendra Pachauri.

Dr Ash Pachauri must be following with persistence and compassion the path that Dr Rajendra Pachauri had charted. I am certain that Dr Ash Pachauri will build upon the achievements of Dr Rajendra Pachauri. I wish Dr Ash Pachauri and his collaborators and partners great success in their future endeavours. I express my sincere appreciation to Dr Rajendra Pachauri for his great work and partnership. I wish Dr Rajendra Pachauri rests in peace.

History

MARITTA KOCH-WESER

President, Earth3000 gGmbH, Germany and Amazonia 4.0 Program, Brazil

In my mind you remain alive and inspiring as ever. I write to you, rather than about you, because your impact on how we think about climate change and how it affects other peoples' lives is alive as ever, and not at all a thing of the past. I see your life's work reflected in today's everyday news, and in the speeches of today's world leaders. I see it reflected also in the latest reports on climate change and the pressing need for adaptation. And I think of you when scientists point to so-called tipping points, points of no return—from Amazonia's savannization to the melting of the Greenland ice shield and the breaking-off of huge Britain-sized icebergs in the Antarctic.

In the 1990s, you stood out. You were an early voice when others had not even begun to care, and when climate was hardly in the political discourse. I remember your words vividly, at TERI, The Energy and Resources Institute conferences, expounding on climate issues and alternative energy options and opportunities. You spoke up as a pioneer in one of the world's most populous and at the time still very poor countries.

I first came to those TERI conferences when I was in charge of the Asia environment agenda at the World Bank, and later at IUCN. At TERI you had a fantastic, bright team. You all managed to gather a famously engaged, committed mix of participants from all over India, and from all over the world. Science and facts mattered—this was your engineer's plea for attention to climate change and alternative energy opportunities. Not only the conference panels, carefully packed, disciplined, and time-managed, but also the informal lunch times in the courtyard with many intense conversations are bright moments engraved in my mind.

Metaphorically speaking, TERI drew concentric circles. Your leadership at the center made waves far beyond, taking you not only to the IPCC, the Intergovernmental Panel on Climate Change, but making you – for the longest time – its chairperson. You took on a huge responsibility. The IPCC became the most authoritative scientific collaborative on earth, modelling climate change scenarios, many of which unfortunately have since been proven true. We, all your friends and admirers, remember the grand and proud moment

when you received the Nobel Prize alongside Al Gore in 2007. This had an enormous impact, and it became a milestone along the long road to the Paris Climate accord in 2015.

Patchy, privately we always kept in touch, seeing you when you came to Berlin or London. Beyond shared interests and commitments, we cherished our personal friendship. Like all your friends, we felt for you when you suffered from, sometimes vicious, attacks in the press. While accusations were withdrawn subsequently, those must have been most hurtful for you at the time.

Dear Patchy, your record stands. You made climate history, and you will forever remain one of the pioneers in bringing about keen climate awareness globally, and in shaping the role of the IPCC. You made the IPCC's voice heard across the world community. And, finally, special gratitude goes to you for never failing to stress the most important, special concern for the world's poor in the context of climate change.

Dr R K Pachauri, an unforgettable Martinian

VIJAY MOHAN KOHLI

Cardiac Surgeon, Metro Hospitals & Heart Institute

r R K Pachauri was a highly respected senior of mine from my alma mater, La Martiniere College, Lucknow and I was in great awe of his towering personality. My association with him spanned a period of about 35 years. It started with our first meeting in 1986 during one of our Old Boys meets and blossomed into a great friendship and ended only when he left us for his heavenly abode. He had always been a source of strength and encouragement for me and had remained with me through thick and thin, for which I will remain eternally grateful.

The day the Intergovernmental Panel on Climate Change, of which he was the chairman, was awarded the Nobel Peace Prize for its outstanding work, was a red letter day not only for us, our school, but for the entire nation. I remember the tremendous sense of pride I felt at the time: we celebrated that day with his close friends and family at his home.

We had always looked up to him for his mature advice, for which he was always available. He gave of himself in a very gracious manner, always as a suggestion and with great humility. I never found him imposing his views on others. I found him to be a thorough gentleman, very warm, affectionate, and focused and had the enviable knack of remembering the names of almost anyone he ever met. Though extremely busy, he always found time for our school-related activities and it was due to his personal contacts that our Founder's Day functions were always graced by luminaries and well-known personalities, many of whom never hesitated to be our guests of honor. It was due to him that people came forward to donate liberally for the upkeep of our school building, funds which were promptly transferred to the Principal, La Martiniere College, Lucknow.

Dr Pachauri was the chairman of the Major General Claude Martin Memorial Trust, started at the behest of Dr Bryan Cooke and late alumnus, Prem Behl, a position which he had accepted reluctantly at our insistence but to which he did full justice. La Martiniere

was at the core of his heart and he went out of his way to do whatever he could for his old school. I remember that at our last Trust meeting, he had expressed the hope that we would go there and try to make it the most sustainable school, using solar power, recycling water, etc. Unfortunately, it could not happen in his lifetime but I am very hopeful that we and other Martinians will some day be able to fulfill his wish.

It was humbling for me to see that he trusted me completely in medical matters and followed my advice to the letter. It is unfortunate that he had to undergo quite a few procedures and hospitalizations. I find myself unable to forget the time when he called me just after getting hospitalized for his valve surgery. Unfortunately, I was travelling at that time so could not go and visit him in the hospital, but I did call and speak to the concerned surgeon and discussed his situation. He was slated for surgery the next day. A colleague and friend, who was the cardiac anesthesiologist, attending on him during his operation, had called to tell me that the valve had been implanted but I did not hear anything after that. His condition deteriorated after that and we lost our beloved Dr Pachauri.

Dr Pachauri's demise has left a void that will be difficult to fill. At a personal level, I have lost a loving friend and guide, and someone who cared for me. What remains are wonderful memories and achievements of his life worth emulating. I am sure the entire world will remember and gratefully acknowledge the gifts he has given to society and the world.

Constantia and Labore: Dr R K Pachauri and Major General Claude Martin

JEAN-MARIE LAFONT

Membre Titulaire, Académie des Sciences, Belles-Lettres et Arts, Lyon

Thad the pleasure of meeting Dr R K Pachauri when, posted to New Delhi in 1987 to conduct research on historical relations between France and India, I became particularly interested in the French who, in the eighteenth century, entered the service of Nawabs Shuja-ud-Daula in Faizabad and then Asaf-ud-Daula in Lucknow.

Among these Frenchmen was Claude Martin (Lyon 1735 – Lucknow 1800) who, as a young soldier, had served under the Marquis de Bussy in the Circars. However, he was treated so badly by Comte de Lally, at that time commander-in-chief of the French forces in the Indian Ocean, that he crossed over to the English in 1760 and made a brilliant military career in their ranks: a career which was forbidden to him in France under the Ancien Régime, since he was not a noble, but a commoner. When he died in 1800 in Lucknow, he had the rank of Major General of the East India Company. His high-ranking work for the nawabs of Awadh, as well as his industrial activities, enabled him to acquire an immense fortune, a large part of which he bequeathed in his will to build colleges for children, boys and girls, in the three cities he loved, Lyon, Calcutta, and Lucknow.

In order to apprehend the impact of these Martinière schools in their respective countries, India and France, I approached Dr Vijay Mohan Kohli, a cardiologist of world repute who was President of the Old Martinians of India. He immediately invited my wife and I to the Major General's commemorative evening held every year on 13 September, Claude Martin's death anniversary, celebrated not only in the seven La Martinière schools (four in India and three in France), but also in New Delhi, where a large number of old Martinians have distinguished themselves in various careers. This invitation was regularly renewed until our final departure from India in December 2010. It was on this occasion that we met an old Martinian, Dr R K Pachauri, who, faithful to his school, attended this commemoration whenever he could.

Dr Pachauri was, of course, well known to the French Embassy and the French Government for his work as the head of the IPCC, the Intergovernmental Panel on Climate Change (United Nations). He had been granted the cross of Officer of the Légion d'honneur in 2006. But his education at La Martinière school in Lucknow had apparently not yet left its mark on the minds of our diplomats stationed in New Delhi. I had some difficulty in convincing my ambassador of the interest there would be in him also attending the 13 September ceremony. When he finally came, it was a revelation for him to discover the part the Indian La Martinière schools had played in forming the brilliant minds committed to the evolution of the modern world, whether in India or internationally. In R K Pachauri, whose remarkable work as Chairman of the IPCC was known since 2002 at the United Nations, there was also a deep attachment to his first alma mater, La Martinière Boys of Lucknow, aka Constantia, from Claude Martin's motto: Constantia et Labore.

In 2007, the IPCC, then headed by Rajendra Kumar Pachauri, shared the Nobel Peace Prize with Al Gore, and Dr Pachauri's work became increasingly important at the international level. We left India in December 2010, after 23 years in that country, to resettle in France where we contacted the Claude Martin Foundation and the three La Martinière schools (Lycées) of Lyon. At that time, these French La Martinière schools were trying to develop their ties with their Indian 'sisters', thanks to the dynamism of Mrs Danielle Martinod, a member of the Martinians Lyon.

The 12th edition of the international conference 'Biovision' was held at the Cité internationale de Lyon from 4 to 6 April 2017. Dr Pachauri, who was to attend, decided to arrive on 2 April to visit the La Martinière schools of Lyon. The morning of 3 April was spent in La Martinière-Monplaisir, where he inaugurated the week of sustainable development, his presentation being followed by an exchange of questions and answers with the students involved in this project. The afternoon was spent in La Martinière-Duchère, where he talked about the fight against global warming, again with questions and answers from the participants. Then, he went to La Martinière-Diderot where, after a visit of the school, he was received at the Claude Martin Foundation, followed by a cocktail dinner. It was there that my wife and I met Dr Pachauri again, and the pleasure was particularly intense for the three of us to meet in Lyon after our long association and friendship in New Delhi.¹

We had just launched at the Academy of Lyon a project of conferences dedicated to Major General Claude Martin, which was held in the premises of the Academy on 29 November 2018. In view of the quality of the communications, we decided to publish the proceedings as soon as possible. I then took the initiative to ask Dr Pachauri if he would agree, despite his ongoing research and many administrative responsibilities, to write a foreword for this publication. He agreed immediately, with his usual generosity. The text he sent us, which appears at the head of the publication, is fascinating in that it shows the attachment he had to his years as a young student in Constantia, La Martinière (Boys) of Lucknow. Allow me to reproduce two extracts of the warm recognition shown by R K Pachauri to this institution²:

I thank Mrs Valérie Bouisset, of the Claude Martin Foundation, for having communicated to me the timetable of Dr Pachauri of 3 April 2017, in the La Martinière schools of Lyon.

R K Pachauri, Foreword / Avant-propos in J-M Lafont, G Barale and M Yon-Calvet, Le "Major General" Claude Martin 1735–1800. Aux origines de La Martinière, ASBLA, Lyon, 2019, pp. 4–7.

"I want to emphasise one particular aspect of the students who are graduates of the La Martinière schools. I believe the kind of character, the kind of commitment that these institutions create among the students who have the benefit of passing through their portals is something that is quite unique. I think in this time of stresses all over the world, in this time which requires a vision on the part of every human being, I think the qualities which are part of the alumni of La Martiniere institutions is very much an important aspect of human development that is taking place all over the world. We are living in a world where science is moving forward rapidly. In my own case for the last 30 years I have been involved in studying the science of climate change, and it is now more than apparent that the world is going to suffer extremes of weather, higher intensity of extreme precipitation events, heat waves and extreme sea level rise related events. What this means is a complete change in the nature of activities that human beings carry out, and it is now for the youth of the world who must take the lead and bring about change in the right direction. What is particularly relevant is the fact that it is the youth of the world who are going to suffer the worst consequences of climate change, and this is an issue that is going to affect every human activity right from agriculture to industry and of course the availability of water in several parts of the world. What I would therefore suggest is that all of us the residents of planet earth must pay adequate attention to what we have been doing to the ecosystems of this planet, which have implications not only for human society but also all species on earth [...]

I am particularly happy that the institutions in Lyon, in Lucknow, in Calcutta have preserved, and if anything, have highlighted the qualities that our Founder Major General Martin established throughout his life. Here was a young man barely in his teens who left his home and his country and went to India, and what he has created is a visionary approach to imparting education, and I have a very strong longing for where I was in school, because those are the days when children and those who studied are influenced the most by the surroundings that they have and the beauty of nature which in my case was an experience that clearly highlighted the enormous value of nature. I believe we had over 640 acres of land in the La Martinière Boys School and all around you saw the beauty of nature, you saw how important it was for human beings to live in harmony with nature. This is an issue that has to be brought out in our life styles, in the activities that we practice, and I believe Major General Claude Martin's own life was a remarkable message in these values. I hope all of us who have been through the benefits of schooling in the La Martinière schools would highlight the achievements of Major General Claude Martin and the values that he created through his entire life. This is a set of institutions that have much to offer to the world, and I am sure over decades and decades of progress that has taken place, Martinians have done an enormous job of helping human society and the world at large."

When after this beautiful evening of 3 April 2017, at the Claude Martin Foundation in Lyon, Rehana and I said goodbye to Dr Pachauri, it was after receiving from him the promise that on his next visit to our city, he would come to spend a few relaxed days with us in the countryside around Lyon. Alas, that was not to be. Today, in these seven La Martinière schools of Lyon, Calcutta, and Lucknow, about 16,000 boys and girls, Indians and French, are preparing their future in the 'spirit of Claude Martin'. There is no doubt that it is also in the spirit of openness, visionary knowledge, and scientific research of Dr Rajendra Kumar Pachauri, under whose leadership the IPCC was awarded the Nobel Peace Prize, and one of the most brilliant alumni of these institutions, that the bicentenary of these institutions will soon start being celebrated in India and in France.

My friend Patchy

BRICE LALONDE

Former French Environment minister and climate ambassador

Late the privilege of meeting Dr Pachauri for the first time in 2006 in New Delhi during DSDS, the Delhi Sustainable Development Summit. He had kindly invited me, and I was happy to give a presentation on my experience in improving cooking tools in Madagascar. At the time, I was a candidate to become the next Executive Director of UNEP, the United Nations Environment Programme. Before leaving Paris, I learnt that Dr Pachauri could also be a candidate, so I wrote to tell him I didn't want to gain any advantage over him by infiltrating his constituency to push for my candidacy. But he told me he was not interested in the position and that he would be happy to introduce me to his colleagues.

Eventually, I didn't become the Executive Director of UNEP, but I attended every edition of the DSDS for the next five years. I was appointed the French ambassador for climate change by President Sarkozy, and the DSDS was the best place to have informal dialogues to make progress in the United Nations conferences, especially to bridge the gap between the developed and the developing countries. Each annual session was introduced by a brilliant presentation by Dr Pachauri as chair of the IPCC on the current state of knowledge about climate change. I still remember these presentations vividly.

By 2009, Dr Pachauri had become Patchy. He asked me to be one of the trustees of the IPCC's Scholarship program he had set up with the Nobel Prize money to help students from the developing world graduate in climate studies. I was honoured to be designated the chair of the board for four years by members as prestigious as Ms Brundtland, Ernesto Zedillo, Tim Wirth, and Albert of Monaco. Overall, it was a sign of the trust he placed in his friends.

Later, as I was in the United Nations headquarters, Patchy asked me to give a presentation on climate change negotiations to his students in Yale University, where he was teaching. As he had such an international status, he was invited to places all around the world.

The last time I saw Patchy was in Mexico in 2018, where he was organizing the second meeting of WSDF, the World Sustainable Development Forum, and launching POP, the

Protect Our Planet movement, to galvanize the youth against climate change. As a new sign of his international reputation, an impressive number of high personalities were patronizing the event. Dr Pachauri was as committed as ever, surrounded by a lot of enthused young people.

I was very sad to learn that he passed away two years later. I'll keep the memory of Dr Pachauri as the iron man of the fight against climate change, always standing up and speaking for truth, always on the move to convince people and governments, always close to his friends from the early climate troops when the world was still asleep.

A memory of his eternal light shining in the sky: a tribute to Dr Rajendra Kumar Pachauri

JIN LAN

Executive Director, International Mayor Communication Centre and Vice Chairman and General Secretary, Global Mayors' Forum

here is a kind of person in the world that you will never forget once you have worked with him. Nothing can separate your memories of him, no matter how long back it was or how far away. Especially at this very moment when the COVID 19 has spread all over the world and jeopardized the health and well-being of humankind, he reminds us of taking climate action. Many of us would cherish the memory of him, the great whistler who has committed himself to improving global climate—Dr Rajendra Kumar Pachauri.

I was blessed with such good luck to meet Dr Rajendra Kumar Pachauri from the IPCC at an international conference in 2005. At that time, I did not know much about the importance of IPCC as I devoted myself to promoting the United Nations millennium goals. I saw the inspiring light in his eyes when Dr Rajendra Kumar Pachauri made the speech. It was the light of power that inspired us to step forward.

In 2018 when I was preparing for the Forum on Implementing the 2030 Sustainable Development Agenda (Shenzhen, China), which was scheduled during 16–18 September, an American expert on sustainable development strongly suggested that I invite Dr Rajendra Kumar Pachauri, the former chair of IPCC, to be our first speaker. In a flash, I remembered his eyes full of hopes that I had seen in 2005. I searched on Google and found plenty of good comments on this Dr Rajendra Kumar Pachauri and information about climate action. The sparkling light that I had spotted in his eyes flashed again in my mind. He was someone that would lead the world towards a bright path.

I strongly believed in Dr Rajendra Kumar Pachauri and sincerely invited him to be our first speaker for the Forum on Implementing the 2030 Sustainable Development Agenda. However, on 14 September we received warning messages from the meteorological

observatory that during 16–17 September a typhoon of magnitude 14 was about to land in Hong Kong, Macao, and the Shenzhen Bay. Our Forum had to be postponed.

Dr Rajendra Kumar Pachauri had already arrived in Japan by then. When he received the message about the postponement, he flew back to Geneva for another conference. He urged our staff that we should follow the most reasonable itinerary for saving the cost when rescheduling his air tickets. He spoke in such an humble and considerate way. Our staff from the International Public Relations Department were extolling the virtues of the well-known environmental hero.

We sincerely invited Dr Rajendra Kumar Pachauri to be our first speaker again when we finally confirmed the date of the Forum, which was rescheduled for 15–16 January 2019. However, we were so sorry to learn that he was in hospital in Delhi as his health had deteriorated because of overwork. Yet he made an 18-minute video to share his thoughts with all participants in Shenzhen, China, after he received my second invitation to be our speaker. He was humble when facing the camera wearing his formal suit and a bow tie, and although his cheeks were hollow and he was tortured by the illness, his eyes still shone with wisdom. He encouraged us by saying that "what Shenzhen has been doing will make it a world model city for climate action". There were 16,500 on-line participants in Shenzhen watching his speech. We will always remember him.

Shenzhen was only 39 years old in 2019. The young city of new migrants adjacent to Hong Kong has integrated Chinese and Western cultures. Although the average age of its residents is no more than 33 years, it is a city creating miracles. Shenzhen had the largest number of electric public-transport vehicles in the world by 2020.

On 16 January 2019, when the seminar titled 'Changing Cities and Building, a Demonstration Zone for Sustainable Development Agenda' was over, Dr Youba Sokona, a former colleague of Dr Rajendra Kumar Pachauri and the Vice Chairman of IPCC, told me: "R K has dedicated himself to improving climate change, and he is tired out. I really hope he could get better soon. The global climate action is facing great challenges. We need R K's ideas."

R K once said that Shenzhen could become a leading city for the Protect Our Planet movement as there were so many young people in town. The world can realize sustainable development as long as we light up young people's minds.

The most influential media in China such as people.cn, news.cn, and Shenzhen TV all reported R K's speech with great enthusiasm. The innovative seminar inspired international participants. The green on-line training and conference incubated by the OGCLab became one of the United Nations ECOSOC 122 global science and technology innovation programmes in 2019.

R K was an outstanding master of integrating Eastern and Western cultures. He appreciated the Chinese philosopher Lao Zi's idea about the relationship between nature and human beings. In Lao Zi's philosophy, the greatest truths are the simplest and the human being is an integral part of nature. Therefore, on 25 January 2019, R K accepted my invitation to become the President of OGCLab. Until 22 January 2020, we had communicated with each other on a daily basis by Wechat messages, emails, and videos. We exchanged a huge amount of information. He spent a lot of time and enthusiasm on China's sustainable development.

In 2019, when he was preparing for the second World Sustainable Development Forum in Mexico, he made several changes to the invitation letter just to extend the most appropriate invitation to the Chinese Mayor from Yingde City, Guangdong province.

R K said to me, "Planting tea in the areas around big cities is a good way to improve the urban air. Yingde's participating in the World Sustainable Development Forum will play a demonstrating role in promoting sustainable development of urban and rural areas as it represents the rapidly urbanized city clusters in the Pearl River Delta in China."

R K was my mentor when we were at work and my sincere friend when we were off work. Everyone from our team felt his warm glory of human nature and sincerity. He respected everyone's work. We were like old friends for many years. We both had endless love for our family. He shared his happiness of writing poems with his daughter. He expressed deep emotions for his son who saved his life when he had a sudden heart attack in Mexico. He was so happy to have an outstanding son. Whenever he was talking about his son, R K was just like a bright young graduate. In R K's life, he was strong and brave with wisdom. Many times he told me with pride that he liked playing cricket. He sent me a video of his running on the cricket pitch, from which I could be assured that he was recovering very well. He hoped to work for the world for another 20 years and together with me to build an on-line Sustainable Development University. He wished to reduce the inequality of educational resources and administrative capabilities of city decision makers, enterprises, and community managers worldwide. He wished to train urban sustainable development mentors for cities all over the world.

Tonight, I look at the sky for the brightest stars. They are R K's hopeful eyes. He hoped that we could light up 1.8 billion young people and have them join the POP movement. He hoped that our common vision would come true: for the world, sustainable development; for people, a beautiful tomorrow.

Birds are singing in the blue sky with breeze stirring across the green land. Let's write a poem to praise the Himalayas and pray for the light of peace to dispel the darkness caused by COVID 19. May people all over the world be happy and prosperous.

Commemorating Dr R K Pachauri, former chair of the IPCC

JIAN LIU

Former Deputy Secretary of IPCC (2005–2007)

r Pachauri was elected the chair of the IPCC, the Intergovernmental Panel on Climate Change, for the Fourth Assessment (2002–2007) and re-elected for the Fifth Assessment (2008–2015). Under his wise and strong leadership, the IPCC advanced itself swiftly to be the global authentic voice of science on climate change, with its key findings taken by Parties to the UNFCCC, the United Nations Framework Convention on Climate Change, as the basis to reach agreements on policies and actions. These advancements are marked by two distinguished milestones: the winning of the Nobel Peace Prize in 2007 and the adoption of the Paris Agreement in 2015, in which one of the IPCC Scenarios was used as the foundation, to limit the global temperature rise within 2 °C by the end of the 21st century.

I served as Deputy Secretary of IPCC to cover the major period of AR4 (2005–2007) during which time I learnt from Dr Pachauri many attributes of a good leader, namely being true to the science, sticking to the principles, believing in team work, and speaking to the reality. Even after he left the IPCC, he never stopped fighting for climate change science and against nay-sayers of IPCC findings.

Being true to the science

IPCC is an intergovernmental process with 195 members from developed and developing worlds alike. Discussing and agreeing on IPCC Assessment Reports is always the most challenging part of the process. Although the assessments are undertaken by experts in various working groups, not all government representatives to plenary sessions have the same understanding and background of climate change, be it on the aspects of climate change science, adaptation, or mitigation. That is the main cause of the challenges in reaching a consensus. Understandably, different parties have different issues and interests

between responding to climate change and development and livelihood objectives, and even when looking for solutions to climate change, they have different priorities from their national perspectives.

As a scientist and intellectual leader on climate change science, Dr Pachauri always stayed true with the science. Throughout the two consecutive assessment cycles, he respected and defended scientists in the three Working Groups and the Task Force on Inventories, in particular, in the process of negotiating the Summary for Policymakers of Assessment Reports. Whenever there was a block in the negotiations, he was always there, trying to understand the issues and concerns from different members of the IPCC, and helped find a compromise based on the science, but without compromising the science itself. Sometimes, if he was on the podium chairing a session, he delegated the moderation to one of his vice chairs to break the deadlock.

Dr Pachauri started a process since AR4 bringing together key findings of the three working group reports (Science, Adaptation, and Mitigation) to forge a Synthesis Report in a consistent and coherent manner, presenting the whole picture of climate change science, issues, and options for solutions to better support the policymaking process of the UNFCCC and at the national level. This marked the new era of system thinking, promoting co-benefits over trade-offs when addressing climate change issues.

Sticking to principles

IPCC, as an established intergovernmental process, has a comprehensive governing mechanism, using principles and procedures to safeguard the scientific credibility and integrity, policy relevance, and neutrality of its reports and the transparency of its assessment process.

Dr Pachauri was the lead defender of these principles and procedures, and whenever possible, he initiated revisions and additions of these procedures to adapt them to the evolving science and reality. Above all, he championed the use of these principles and procedures both in his leading the IPCC and in defending it against accusations of IPCC science.

Believing in teamwork

The IPCC architecture is a comprehensive one, comprising almost all disciplines of biophysical science, social science, economics, and technology. Even somebody as smart as the IPCC chair could not cover all issues in all these disciplines. Dr Pachauri, as the chair, respected all disciplines; in particular he listened to his vice chairs and working-group co-chairs, empowering them through delegated leadership on relevant fronts.

He supported all the working group co-chairs when they were in the podium, chairing the sessions of their respective reports. He listened to members of the IPCC carefully and intervened and facilitated breakout groups on specific topics whenever necessary in the best way possible to support the leadership of working group co-chairs.

To ensure consistency and coordinated efforts across the three working groups and the Task Force in Inventories, he established a core group (now called the Executive Committee) comprising all the three vice chairs, the six working group co-chairs, the two Task Force co-chairs, and the Secretary and the Deputy Secretary of the IPCC. Through this group, each member could express herself or himself, debate and discuss, and finally reach a consensus, sometimes through a compromise, to move the IPCC agenda forward.

Speaking to reality

As the only chair from the developing world in the history of IPCC, Dr Pachauri always spoke to the reality. That was rooted in his knowledge and understanding of the challenges and dilemma confronting the poor in those countries.

I recall that when IPCC got the Nobel Peace Prize in 2007, there were a lot of media interviews with Dr Pachauri. One correspondent from a worldwide TV asked Dr Pachauri, "When the science is clear for action against climate change, how could you advise the Government of India to take action?" His response was a true reality check, based on ground realities in the country. He said in a country of more than 400 million people without access to electricity, we must address climate change issues within the context of sustainable development. He further spoke about the importance of poverty alleviation as an enabling condition and opportunity to responding to climate change.

Rajendra, sustainable development lord of kings

CARLOS LOPES

Professor, Nelson Mandela School of Public Governance, University of Cape Town and Visiting Professor, Sciences Po, Paris

hen I arrived in Addis Ababa, in September 2012, to take my new position as Head of the ECA, the Economic Commission for Africa, I was prepared to convince my colleagues about the importance of climate change in the development policy formulations we should promote. It turned out they needed no convincing. They had developed a strong network of African specialists interested in the theme and were ready to participate in the major policy work countries were demanding. Part of their motivation came from a conference on sustainable development organized by ECA a year earlier. Rajendra Pachauri was the keynote speaker. Organized for 300 attendees, the conference ended up mobilizing 700 participants, thanks to the popularity of the keynote speaker and the rising role of the African Climate Policy Center, an ECA outfit that had, amongst other noble tasks, to ensure a meaningful participation of the continent in the IPCC, the Intergovernmental Panel on Climate Change, led by the same Pachauri. I was excited to learn about these links, having heard about the Nobel Peace Prize the IPCC, under the leadership of Pachauri, received in 2007.

I pursued such contacts with TERI and Pachauri vigorously. Little by little he became a friend, an inspiration, and to a certain extent even a protector. His interest in giving Africa a voice was genuine and deeply moving. I could not ask for a better support as I tried to enhance Africa's participation in the climate discussions. My aim was to augment Africa's agency and originality in the way it dealt with climate issues. Given that the continent contributes to less than 3% of global emissions, the targeting for climate action in Africa had to shift from adaptation alone, easily associated with Africa doing it for the benefit of others, given its poor development indicators, towards a more novel transformation.

Being latecomers to industrial development, Africans had a chance of doing things differently, investigating ecology as an asset, and moving their growth targets in the

direction of green low carbon options. For that there was a need to interrogate the philosophical principles that underpin sustainable development: the most important being intergenerational solidarity; and the second, common but differentiated responsibilities.

Pachauri understood my plea and was instrumental in helping formulate this ambitious shift in the Africans' attitudes. With support from TERI, I engaged in a series of exchanges that brought him several times to Addis Ababa. We even jointly organized a major event in Rio de Janeiro, together with the then Head of UNEP, Achim Steiner, during the 2012 United Nations Conference on Sustainable Development, marking the 20th anniversary of the Earth Summit. It was a conference on the need for a new social contract. A book resulting from this intellectual debate was eventually published in Brazil, with contributions from Pachauri and myself.

My relationship with Pachauri kept growing. I paid him annual visits during the Delhi Sustainable Development Summit. Despite being such a busy period his attention to the Africans was remarkable. I was privileged to be able to constantly receive his support and benefit from his advice and knowledge network.

When Pachauri decided to launch the *International Journal on Green Growth and Development*, I was happy to be right there with a contribution in the first issue as he insisted it should be. It was one more demonstration of the special rapport we established. As he ably described in the foreword for the first volume, "If a transition is to take place towards greener models of growth, then substantial intellectual effort is required to define pathways that are available to us and directions by which we can move towards outcomes that represent green growth and development" (Pachauri 2015). This was the essence of our common understanding of the world challenges; the reason I cherished my interactions with the man.

We continued to exchange messages until his untimely death, sometimes just to get news of each other and check what we were up to in the areas that passionately mobilized us both. For instance, I remember telling him about my attempts to bring India and Africa's common history to a new profile. It is important to highlight the Indian presence in Africa surely, but also Africans' long presence in the formulation of Indian identity (Jayasuriya 2009). He applauded and asked how he could contribute. In fact, without noticing, he always did.

He will be remembered by many in Africa as someone who always had an interest in climate justice. And you cannot defend climate justice without thinking of Africa. For that he remains the 'Sustainable Development Lord of Kings'—Rajendra is a name derived from Sanskrit that means lord of kings.

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In memory of Dr Rajendra Pachauri

HENRIK O MADSEN

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r Rajendra Pachauri, universally known as Patchy, left us on 13 February 2020 in New Delhi at the age of 79. His contributions to the fight against climate change, and his leadership on environmental and energy issues and their policy dimensions will remain important for decades to come. He is sorely missed by his family as well as his many friends and colleagues.

Dr Pachauri very early understood the global risk of climate change due to emissions of greenhouse gases. He engaged in the work of understanding and communicating the science behind climate change and the complex systems driving the processes. Dr Pachauri chaired the IPCC, the Intergovernmental Panel on Climate Change in the very critical period of the fourth and fifth assessment cycle from 2002 to 2015. The publication of the Fifth Assessment Report in 2014 will stand as a monumental achievement where fundamental relations were confirmed, and important future scenarios developed and communicated. Any remaining doubt about climate change being human-caused was removed, leaving only a small hardline community of climate change deniers fighting against scientific facts. The Fifth Assessment Report became the scientific foundation of the Paris Agreement in December 2015.

To lead thousands of scientists from all over the world in the IPPC work was an outstanding achievement of Dr Pachauri. To lead a group of proud and opinionated scientists is difficult in the first place. To achieve consensus on a complex and controversial topic such as climate change among thousands of scientists from many schools of thought is impressive. To do this under the scrutiny of fellow scientists not directly engaged in the work, and scientists being funded by unscrupulous people with strong motives to deny the existence of climate change is really outstanding. Under Dr Pachauri's leadership the IPCC achieved exactly that, and the recognition of IPCC through the award of the Nobel Peace Prize in 2007 was universally applauded. Dr Pachauri received the award on behalf of the IPPC at the ceremony in Oslo on 11 December 2007.

It can be argued that climate change was only a topic for specialists before the COP meeting in Kyoto in 1997. The Kyoto Protocol implemented the objective of the UNFCCC, the United Nations Framework Convention on Climate Change, to reduce the onset of global warming by reducing greenhouse gas concentrations in the atmosphere to "a level that would prevent dangerous anthropogenic interference with the climate system". The convention was signed and eventually ratified by 192 UN member states, and the publicity surrounding the protocol was instrumental in creating a public understanding of the vital global concern of human-caused climate change. The IPCC provided the scientific foundation, and Dr Pachauri's skills in understanding the political dimensions and communicating difficult scientific facts in a manner that leaders within politics, businesses, and civil society could understand has been critical. In a historical perspective it is unique how climate change 25 years after the Kyoto COP is now a primary topic in public elections, a key risk recognized in business strategy plans and local community development plans, and the topic of thousands of civil community organizations. Dr Pachauri throughout his communications repeatedly emphasized his concerns regarding the implications of climate change for the world's poorest nations—a fact that is only becoming more and more obvious every year.

Dr Pachauri's contributions to the development of TERI, The Energy and Resources Institute, is no less impressive. He was the founder-director of TERI in 1981. He led the organization for more than three decades and developed it into a world-class think tank on energy, environment, and sustainable development issues with activities globally. Dr Pachauri left TERI as Executive Vice Chairman in 2016. Indian scientists were provided with the opportunity to work on cutting-edge problems and collaborate with the best international scientists through TERI. Dr Pachauri's insistence on excellence was the key driver to lift TERI to today's position as one of the leading international research institutions in its fields of energy and environments, but also areas such as agriculture, food, health and nutrition. The TERI University was started to provide high-level education to Indian students, many of whom are now playing key roles in society. Personally, I had the honor of being invited by Dr Pachauri to join the Governing Council of TERI and learn first-hand the activities and achievements of the organization.

Until his passing away, Dr Pachauri continued to be very active. The next generations, who will inherit and must live with the climate problems, were of particular concern for him. He wanted them to be informed early in their youth on what climate change is and how it will potentially affect them later in life. Together with his son Ash, Dr Pachauri created the POP, the Protect Our Plant movement developing educational material for young people on climate change and its implications. Many thousands of school students, mainly in Central America, have benefitted from the POP movement up to today.

Above all, I remember Dr Pachauri for his dedication to his family. He received a tremendous support from his wife and children, and he always expressed his deep appreciation for this.

For me, Dr Pachauri was a dear friend and mentor. He was always available for discussions on professional and personal issues, and our almost regular bi-weekly Skype conversations connecting us from wherever in the world we happened to be were very dear to me. Patchy was a true friend and always asking what he could do to help me personally and promote the sustainability causes that I was pursuing. I miss him very much and I am proud to call him my friend.

The legacy of Rajendra Pachauri: a personal reflection

MICHAEL E MANN

Department of Meteorology and Atmospheric Science, Penn State University

It is a pleasure to have this opportunity to speak about the profound legacy of Rajendra Pachauri, a legendary figure in the battle to address the climate crisis. To his friends, among whom I was fortunate enough to count myself, he was just 'Patchy'.

I first became aware of Patchy back in 2001, during the early years of my scientific career, just a few years after I had published the now-iconic 'hockey stick' curve (Mann 2013), when I was a relatively young assistant professor in the Department of Environmental Sciences at the University of Virginia.

Patchy was running to be the new chairperson of IPCC, the Intergovernmental Panel on Climate Change. Climate inactivists – a term I use to describe a coalition of fossilfuel companies, front groups, politicians, and media outlets doing their bidding (Mann 2021) – disapproved of the current chair, an American scientist named Bob Watson, who had been appointed during the Clinton era, and had opposed the tepid climate policies of the Bush Administration. As reported in *Science* magazine (Bagla 2002), "The Bush Administration and the fossil fuel industry cynically promoted Dr. Pachauri's election in hopes that the IPCC, under his leadership, would be less credible and effective than under Dr. Watson".

I always smile when I read that statement. I like to imagine how terribly disappointed climate inactivists must have been, for Patchy showed himself to be more than up to the task at hand. He proved to be a remarkably effective and forceful champion for science-based climate action. Indeed, his efforts were recognized with a Nobel Prize—when, under his chairmanship, the IPCC and Al Gore were co-awarded the 2007 Nobel Peace Prize for advancing the causes of both climate awareness and climate action. It was a truly fitting tribute to Patchy's legacy.

Rajendra Pachauri provided support for me for years while I was under attack by the forces of climate denial and climate inaction in their campaign to discredit the nowiconic 'hockey stick' graph—attacks that I have described in detail elsewhere (Mann 2013). Patchy understood the detrimental impacts such attacks can have on an individual having suffered many attacks himself by those looking to discredit him as a climate messenger. He provided assistance and counsel, both publicly and privately, at a very difficult time, and it meant a lot to me.

I was terribly saddened when I learned of Patchy's passing last year. He is among a handful of truly heroic figures in the climate movement – including Stephen Schneider and Sherry Rowland – that I was honored to know both as leaders in the climate movement and as friends.

I remain optimistic that we will rise to the challenge of addressing the climate crisis before it is too late. And when we do, it will in substantial part be attributable to Patchy's efforts.

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A tribute to Dr R K Pachauri

PETA MILAN

CEO and Founder, Transcendent Media Capital Ltd

r Rajendra K Pachauri was a soulful man. Many will offer tributes based on his inspirational career and contributions to climate science and his ability to coordinate action at the highest levels of leadership. He was well respected in the global community. I, however, want to acknowledge the man who contributed to the shaping of my life.

RK saw the world in ways most of us do not. He saw everything as an interconnected web of beings, spirit, and purpose. Being deeply grounded in spirit enabled him to see the best in people, even when they were yet to see it for themselves. He was the first person in my life who did not underestimate me; he empowered me to step onto a global platform and to give a voice to my own intelligence, source, and creativity. He demanded that everyone's contribution was valuable. He understood the laws of reciprocal value co-creation found within natural living systems and called people forth to contribute their unique value.

He surrounded himself with the land, his children, and animals, which helped him to keep his own feet firmly on the ground, enabling him to listen deeply to the wisdom of the Earth. Family was his priority and he saw those who contributed action and wisdom to understanding our climate crisis and the pioneers who sought to solve it as an extension of his family. We are, after all, one within the living system, and he understood this truth.

Those who sought to protect their power and self-interest within the status quo could often feel threatened by his quiet and gentle way of setting and respecting firm boundaries. The narratives he sought to create were those of inclusive action, empowering and inspiring, and would rail against the Armageddonesque fear that some used to drive action, prevent change, or discredit science. In those moments he was humble enough to step aside to allow and have faith in the power of the community he had built to continue to drive action alongside him.

Rajendra also understood that whilst policy reform, innovation, and solid scientific understanding of the facts were needed to drive the transformation of the planet,

much of the power to change rested in how effectively we can empower our youth. Transcendence, the ability to rise above our constraints and self-limiting beliefs, was core to how he viewed the world. And then, from time to time, all the barriers and the pretense that often existed amongst the talk could become exhausting. In those moments, I was privileged to see his humanness. Amongst the many trials and tribulations, he continued to believe in the power of the ecosystem and continued to take affirmative and loving action. In his vulnerability, the strain had an impact on his health, but to the end he remained a positive force.

His work is not done and sometimes I still feel Rajendra with me, powering me forward, even in my brief moments of self-doubt. Bringing a living systems lens to the world will take collective effort, connecting our ways of thinking, designing, modelling, and investing back into alignment with whole systems thinking—a new kind of biomimicry. Rajendra was a pioneer in this regard, and we will continue to drive his legacy forward, restoring balance to nature, building value-adding ecosystems and harnessing the power of networks to achieve our climate targets and better meet the needs of the whole of life.

In memoriam of Prof. Pachauri and his devotion to make the world a better place

NEBOJSA NAKICENOVIC

Vice Chair, Group of Chief Scientific Advisors to the European Commission Former Deputy Director General, International Institute for Applied Systems Analysis

Former full Professor, Energy Economics, Vienna University of Technology

met Professor Rajendra K Pachauri – for those of us who had the privilege of working with him, our Patchy – some 30 years ago for the first time, just as he was building TERI more or less single-handedly and continued to work closely with his tireless leadership on energy for all, environmental protection including climate neutrality, and sustainable development challenges.

The world was fundamentally different back then but energy was one of the key challenges just like today on the way forward for reducing adverse environmental impacts at all scales and importantly making sure that nobody is left behind. Patchy's vision was to develop nature-based solutions such as sustainable renewable sources to provide decent, affordable, and reliable energy services from lighting to cooking. What is unique is that he put this vision to practice.

One example is TERI's model of a sustainable habitat as a resource-efficient training facility, namely RETREAT. It is based completely on renewable energy with recycling of water, photovoltaic electricity, and natural cooling. It was and still is an ideal example for architects, builders, and others for the promotion of renewable energy technologies in India and the world.

The other notable example that he conceptualized and successfully implemented is the global Lighting a Billion Lives (LaBL) initiative to facilitate clean, affordable, and renewable energy lighting for those without access to electricity. As the lack of access to electricity and clean cooking are the major development challenges, Patchy advocated and implemented thousands of integrated domestic energy systems (IDES) in rural and remote areas. The initiative has attracted private sector and has been deployed across India and in many other developing countries.

Later when Patchy became the IPCC chair, our close collaboration continued on the 4th and 5th assessment reports, in which I was also a lead author among many. It was during Patchy's tenure that IPCC received the Nobel Prize for Peace, a distinction that is commensurate with Patchy's monumental achievements and legacy.

I had the opportunity to participate in the first Delhi Sustainable Development Summit in 2001 and have been a dedicated participant during the first decade and occasionally during the following years. These summits were exceedingly influential in setting and promoting sustainable development in India and worldwide. Thus, I am aware of the importance of this institution that is another seminal legacy of Patchy.

Patchy and I collaborated on a number of important initiatives over the past years, and I would like to highlight on a more personal note that we were teaching jointly a postgraduate course in Montenegro in 2019 where we also met a few times and the last time in person.

Some of you may know that I am originally from former Yugoslavia and it meant a lot to me that Patchy devoted so much time to work with students from Western Balkans on communicating the need to transform the world to a just and safe place without leaving anyone behind.

Patchy was an humble person. When we organized IPCC Authors' meeting at IIASA, it was Patchy's duty to open the event and make introductory comments. In conclusion he said that IIASA was one of the leading scientific institutions in the world and he hoped to be able to join IIASA at some point, but that he apparently did not have the kind of academic achievement to qualify. In conclusion, he said that he was delighted that his daughter, Shonali, did qualify so that he is proud that at least one family member has such high academic achievement.

The key question is whether humanity will have the political will to collectively achieve the essential transformation and avoid pitfalls of my-country-first or my-region-first logic that is spreading throughout the world. It is for us all to choose which direction to go as Patchy always pointed out that a sustainable future for all is within reach if we act decisively and in unison.

A visionary and a gentleman

RAMESH NARAYAN

Advisor Strategy, Asian Federation of Advertising Associations (AFAA)

It was the year Dr Rajendra Pachauri accepted the Nobel prize as Chairman, IPCC. The India Chapter of the IAA, the International Advertising Association, invited him to speak to a select gathering on the lovely verandah of the Chambers Club at the Taj Mahal Hotel, Mumbai.

Dr Pachauri arrived, spoke eloquently and humbly and then said he had some time to kill before his next engagement. I was deputed to 'hang around' with him and chat him up.

In those ten minutes we had together, he told me about his dream to launch a movement called 'Lighting a Billion Lives' and explained the concept and need for solar power in what he called 'dark' villages all over India. Then he asked me if the advertising fraternity could help in any way. I told him I would think of something. He probably thought I was just being polite. But I was smitten by his persuasiveness and the nobility of the cause.

To cut a long story short, the IAA launched a contest to select a communications campaign to launch this initiative. A stellar jury consisting of everyone from Kumar Mangalam Birla to Shobha De were persuaded to judge the entries (so that these captains of industry could also be sensitized to the cause) and I told Dr Pachauri that he would need to come to Mumbai for the launch of the communications campaign. He came, and brought the then Union Minister for New and Renewable Energy, Farooq Abdullah, with him. We persuaded 15 media moguls to take the stage and pledge their support for the winning campaign, and Lighting a Billion Lives was launched in style. A solid pro bono media campaign with TERI as the 'client' followed.

This effort made the IAA focus on the environment and soon the unique and widely acclaimed Olive Crown Awards were launched to celebrate creativity in communicating sustainability. Dr Pachauri was honored as a Green Crusader and he flew down to Mumbai again to spend an evening with us.

Meanwhile the Rotary Club of Bombay wanted to honor him with their award for environment and I once again called him and requested him to come to Mumbai. Gracious as always, he came, wowed the audience and then I requested him to sit in the

Sea Lounge of the Taj Mahal Hotel and spend some time with a professor friend of mine and her ten students. He patiently explained to them over about 30 minutes what he was trying to do for rural India. The result was the launch of a student-initiative, which later evolved into a wonderful NGO called Chirag Foundation which uses solar energy as a pivot for transformation in remote villages of India.

I quote these examples to explain how easily he made a lasting impact on the people he spoke with, and the many wonderful things that have happened because of his catalytic effect.

Initiatives that don't bear his name but live on, after him, are testimony to his vision and his work.

I had the good fortune to stay in touch with him even after that and visited his office a couple of times as an honorary communications consultant.

I cherish those interactions. His unfailing grace, his charming manner, his articulate communication and most importantly his solid work lives on even today.

The approachable academic star

KAPIL NARULA

Senior Researcher, University of Geneva, Lead (Adviser) (Energy), NITI Aayog, GoI

or anyone connected with energy and climate issues, especially in India, the late Dr R K Pachauri was an academic doyen and a star with his trademark white and black beard. He was chairman of the IPCC (2002–2015), headed TERI – one of the largest and most respected energy think tanks in the country for three decades – and was a Padma Vibhushan awardee. His professional accomplishments as a Nobel Peace Prize winner on behalf of the IPCC (2007), charisma, and personality placed him on a high pedestal and he was a role model for many aspiring energy and environment professionals. But due to his stature, he was also perceived to be someone far away, like a star in the sky—visible but not reachable.

As a serving officer with the rank of 'Commander' in the Indian Navy, I was given the opportunity to pursue a PhD programme at IGIDR, the Indira Gandhi Institute of Development Research, Mumbai, on study leave from 2010 to 2012. In the second year of my PhD, I applied for an academic program at IIASA, the International Institute for Applied Systems Analysis, and was sponsored by the Indian government as a participant from the Young Scientist Summer Programme (YSSP) in 2011. Although I proposed to work on an upcoming energy efficiency scheme in India, I found myself working on decentralized electricity access and energy modelling under the guidance of Dr Shonali Pachauri, daughter of the reputed academic. The 'Pachauri' name suddenly looked within reach, still somewhere in the sky but closer, like the moon. My professional interaction with Dr Shonali went much beyond the rigid structure of guide–student exchanges and I realized that if the "fruit was so sweet, then the tree would be loaded with many more virtues".

The first time I personally interacted with the late Dr R K Pachauri was in 2012, when it was announced that he would be visiting IGIDR to deliver a guest lecture. Realizing the once-in-a-lifetime opportunity of a face-to-face interaction with him, I e-mailed him directly, to his official mail ID, proposing some of my ideas for implementing an energy

policy for Indian Navy. I also requested a short personal interaction during his visit and for his guidance. It was more of a shot in the dark as I had no formal authority or responsibility to discuss these ideas with someone of his stature.

I was pleasantly surprised when my request was answered by his office, agreeing to a formal one-to-one interaction during his visit to IGIDR, Mumbai. After his lecture, he patiently heard my views, suggestions, and proposal. He promised me full support and encouraged me to progress on the uncharted path. This first interaction left a deep impression on me and reflected the sensitive side of his personality. Despite his stature and several other constraints on his time, he agreed for a formal interaction with an unknown (possibly naïve), PhD student. His approachability, humility, patience, friendliness, modesty, and encouragement to young researchers were qualities which were on full display during that exchange and he inspired me to imbibe them in my own life.

Things moved on and I was pulled along in other directions by the responsibilities of my job after re-joining the INA, the Indian Naval Academy, at Ezhimala in August 2012, from where I continued to emphasize the need to adopt an energy and environment policy for the Indian Navy. By this time I had realized that a bottom-up approach does not work in a hierarchical organization like the defence services and if things have to materialize, they have to be pushed top down.

The next opportunity for interacting with the late Dr Pachauri came when I was invited to become a core member of the team drafting the 'Green initiatives for the Indian Navy' in September 2013 on the directions of the (then) Vice Chief of the Naval Staff, Vice Admiral R K Dhowan. This was exactly what I had been recommending since 2008 and with the top leadership pushing for it, the time to deliver had arrived. In January 2014, I was deputed to work at the National Maritime Foundation, New Delhi, which was a maritime think tank and came physically closer to TERI and policy-making circles. The selected team delivered the recommendations and the Indian Navy formally adopted the 'Green Initiatives Programme' on the World Environment Day on 5 June 2014 under the visionary guidance of the (then) Chief of Naval Staff, Admiral R K Dhowan. The aim was to integrate the philosophy of energy efficiency and environment conservation in all spheres of naval domain, in line with the national energy and environment goals. A comprehensive Indian Navy Environment Conservation Roadmap was also introduced with short-, medium-, and long-term goals, to be pursued by different naval establishments. A formal monitoring and administrative mechanism was also developed to ensure continuity of the initiative in the future.

Buoyed by the realization of one of my professional dreams, I again approached the late Dr Pachauri, reminding him of our earlier interactions. Specifically, I asked for TERI's expertise on energy and environmental issues and proposed a Memorandum of Understanding between TERI and the Indian Navy. He directly responded with a positive answer assuring all support in the matter. I also proposed to him a meeting with Admiral Dhowan, for an hour-long discussion on the formal collaboration, to which he graciously agreed. Unfortunately, the proposed meeting between the two heads of the organizations could not materialize due to their non-availability in late 2014. Subsequently, rumours about Dr Pachauri started surfacing in the press, which resulted in further delays and the proposed meeting never materialized, leaving a void that could never be filled.

Dr Pachauri's passion for energy and the environment and his missionary zeal to promote clean energy was evident in our personal interactions. He was not influenced by the name or status of a person and based his decisions by the merit of the case. He bridged the gap between hierarchal levels by cutting the red tape and extended a helping hand, despite his star status. His vision, fervour, and childlike enthusiasm were infectious and were notable hallmarks of his personality. His humility, approachability and down-to-earth behaviour is worthy of emulation and the twinkle in his eye inspires me till date.

These qualities are duly carried forward by his children, Dr Shonali Pachauri, who continues to be my friend, philosopher, and guide, and Dr Ash Pachauri, with whom I share a strong passion for maritime sustainability. I am sure that they will become instruments in realizing the unfulfilled dreams of the late Dr R K Pachauri in their own special way.

Dr R K Pachauri: an institution builder

SHAILESH NAYAK

Director, National Institute of Advanced Studies, Bengaluru

r R K Pachauri was a great champion of promoting sustainable development and protecting and conserving our environment. The sustainability of planet Earth was of paramount importance for him. The annual WSDS, the World Sustainable Development Summit, initiated by him, is an ideal platform to debate various issues in this regard. One of the major threats to sustainability is climate change and its impacts on humanity. He had provided an inspiring leadership to IPCC, the Intergovernmental Panel on Climate Change, and he had addressed this issue from scientific, social, and human dimensions. He ensured that IPCC collated all scientific information, facts, evidences, etc. and documented them by involving hundreds of scientists across the globe and provided authentic information related to climate change, both at global and regional levels. The detailed documents on climate change produced by IPCC are today the basis for defining policy interventions. Dr Pachauri was successful in bringing the attention of governments and policymakers to the consequences of climate change. IPCC and his contributions were very well recognized when the Nobel Prize for Peace was conferred. This award was a crowning glory for IPCC and Dr Pachauri. He had realized the importance of youth in fostering change and initiated the POP, the Protect Our Planet movement, to direct the energy of youth towards ensuring our future. He travelled almost non-stop for campaigning the cause of climate change. He interacted with political leaders, scientists, and members of the civil society across the globe. His contributions to the cause of climate change will always be remembered. He was a 'Great Crusader of Climate Change.'

Dr Pachauri had nurtured TERI from its inception and made it a world-class institute by attracting young and bright minds to it to address pressing societal issues. Not only that, he inspired these young scientists, nurtured their talent, and provided opportunities to succeed. Today, these scientists and engineers have become leaders of repute in their own chosen fields. They have carried out outstanding research and innovations, which

have helped TERI to scale great heights. Today, TERI has been recognized as a premier institute in the field of energy, biotechnology, environment, and sustainability throughout world. Dr Pachauri had also realized that education is a very vital step for developing leaders in the field of climate change and sustainability. His idea of setting up the TERI SAS, the TERI School of Advanced Studies, in this direction was a visionary step. TERI SAS has been providing formal education in the field of sustainable development and related disciplines. Alumni of TERI SAS have been engaged by government and nongovernmental organizations, academic institutes, and industries. TERI SAS has been at the forefront in building capacity in the Indian subcontinent and I am sure these efforts will help in ushering sustainability.

Dr Pachauri had made acquaintance with heads of governments, political leaders, opinion makers, diplomats, industrialists, and people from all walks of society. He was a great lover of sports and played cricket until a few years ago. Above all, he was a great human being. His contributions on climate change and sustainability will be always cherished.

Recalling a leadership

YESHEY PENJORE

Minister of Agriculture and Forests, Bhutan

Back in September 1997, I, as a young civil servant with the NEC, the National Environment Commission, Royal Government of Bhutan (RGoB), was sponsored by RGoB for a month-long training course on greenhouse gas inventory, vulnerability and adaptation to climate change, which also included study on assessment of measures to mitigate the adverse effects of climate change at TERI, The Energy and Resources Institute, New Delhi, India. I was then the national project manager for the Bhutan greenhouse gas project, which was the first-ever activity related to climate change, as part of which Bhutan was obligated to submit its initial national communication (INC) to the UNFCCC, the United Nations Framework Convention on Climate Change. TERI was chosen by the Bhutanese government as a consultant to build the required capacity in the national project team and to guide the government to formulate the INC. Dr R K Pachauri was then the director of TERI.

From then on, I had the opportunity to meet and interact with Dr Pachauri whenever I visited TERI. Bhutan's INC was submitted in the year 2000. Experts from TERI visited Bhutan, and my colleagues and I also visited TERI quite a few times between 1997 and 2000. Later, over the years, Dr Pachauri became the chair of the IPCC, the Intergovernmental Panel on Climate Change, and I met him at both IPCC and UNFCCC conferences across the globe. Perhaps the last I met Dr Pachauri in person was in Poznan, Poland, in 2008 at COP14, the 14th Conference of Parties to the UNFCCC.

It was apparent to me that Dr Pachauri had an open heart and humility to every single person. Although highly qualified and popular, Dr Pachauri was a down-to-earth person with character. He also had such sharp memory that he could recognize and remember people – irrespective of their rank or status – even when he would meet them after long intervals. Under Dr Pachauri's leadership, I also must acknowledge the friendly nature of all TERI professionals: Ms Amrita Achanta, Ms Sharmila, Dr B D Sharma, Ms Ulka Kelkar, Dr Sujata Gupta, Dr Leena Srivastava, Ms Preeti Bhandari, Ms Preety Soni, and of course Dr Ajay Mathur, who succeeded Dr Pachauri as the head of TERI, are those I remember from our interactions those days.

In my view, Dr Pachauri's contribution to the global community in terms of sustainability and environment conservation is immense—something beyond measure. He had always been a pioneer in renewable energy, alternative technologies for energy saving, reduction in emissions of greenhouse gases, and innovative concepts in municipal and industrial waste management. Saving the environment by managing urban transport is another area about which the late Dr Pachauri cared deeply.

I can describe Dr Rajendra Kumar Pachauri in many more words but those will only be a mere repetition of what I am sure many other personalities would express. I will conclude by offering my prayers that his soul may rest in peace and by wishing the members of his family every strength to bear the huge void created by his departure. I also wish to congratulate them as well as TERI alumni for coming up with this brilliant idea of commemorating Dr Pachauri's memory by publishing this book. Let us all work together to continue the legacy of a noble man who worked all his life to save the planet and make good living space for every soul in this universe. Wishing everyone a safe and happy life!

When courage meets conviction

PAUL POLMAN

Co-founder and Chair, IMAGINE

r Pachauri in all respects was a remarkable human being who tirelessly travelled the world on a mission to ensure that we would take the signals that nature was sending us seriously. He understood better than most that infinite growth on a finite planet was simply not possible. Having grown up in India, he equally understood that all too often it would be the poor or the disadvantaged who would suffer disproportionately from our shortcomings in not addressing the most burning issue of climate change.

As a scientist he not only brought us the facts and the insights but was equally not afraid to speak up when needed: a rarity at the time. Although he often represented the work of many, his thoughtful comments, brought with empathy and compassion, carried a lot of weight. He transcended generations with his messages despite his age and would quietly and patiently in his own way persuade the still too many sceptics he encountered on his way.

I met Dr Pachauri well before 2015 when I was working as a member of the high-level panel appointed by the then UN Secretary General Ban Ki-moon to develop the SDGs, the Sustainable Development Goals. Climate change or Goal 13, as it finally landed in the global goals, or the SDGs, was not the most burning issue at that time for most politicians. Not only had the private sector not woken up to the negative impacts it was having on society but also there was limited awareness at that time of the inherent risks and opportunities.

Anyone with his knowledge would have been desperate to see the enormous gap between what was needed and what was being actioned. Yet instead, meeting after meeting with heads of state, key business people (myself included), NGOs, students and academics, Dr Pachauri would educate them on the facts, suggest solutions, and nurture on actions. He believed in inclusion and deeper and novel levels of partnership when it came to finding the solutions to partnership.

We met up again in early 2015 in India where I had travelled to the TERI University campus to receive an honorary doctorate from him. This was not an easy time for him

but he above anyone else knew that the year would be decisive with both the SDGs to be concluded in September and then the climate change negotiations or COP 21 in Paris later that year. Stakes were high and so were emotions, lobbying by special interest, or outright skepticism. Nothing would deter him from his life's mission to secure a good outcome.

The year 2015 turned out to be a crucial year for humanity when both the Sustainable Development Goals and the Paris Agreement got approved with overwhelming enthusiasm—a defining moment and moral compass the world desperately needed. Although many played a role, it was Dr Pachauri's tireless crusade, starting years before, that frankly drove the needed conviction in many others and unlocked that slightly higher level of courage. We will be eternally grateful for that. He leaves a great legacy.

'Patchy': the man in the dark homburg hat

JOHN R PORTER

Faculty of Science, University of Copenhagen, Denmark

saw 'Patchy' 'live' for the first time at the Tsukuba IPCC meeting in 2011 at the start of the 5th Assessment Report. He was being interviewed by the press. In spite of rigorous questioning, he was courteous, very well informed, and to the point in his responses—to questions that he must have answered many thousands of times. He was a man with a glint in his eye and after the press conference he spent time with us and made us feel important and did what all good leaders do: give people confidence and a sense of attachment to the enormous task of writing an IPCC Assessment Report.

I saw him again in San Francisco for an authors' meeting and then he joined us on a boat trip that took us past Alcatraz prison. He was again in his dark clothes and hat and had a secretarial assistant with him. When he found out that I was originally from the UK, he switched to talking about cricket, a joint passion for both of us. He told me he was a 'military medium' pace bowler and that there was a cricket pitch at TERI and that he still loved to play when he had the time. I told him that I had played cricket in Wales and Bristol and now was an MCC-trained cricket umpire, having umpired internationally in New Zealand, Singapore, the UK, and Denmark, of course. I would love to have played in a game with him, but would have been careful to give him 'not out' if any bowler had the temerity to launch an appeal against him!

The thing that I most admire him for was the way he participated in the Working Group 2 Summary for Policymakers' meeting in Yokohama, Japan, in 2014. It was four in the morning and some of the government delegates were trying to rewrite the report to suit their own country's interests. The behavior of certain delegates from certain countries was a complete disgrace and it was clear that some delegates were using the occasion to impress their governments as cynically as they could, presumably in the hope that they would get further lucrative overseas trips in the future. Patchy was furious and he stood up and read the Riot Act with the words 'This report is written by scientists for government delegates and not by the delegates themselves—the world's eyes are on you'. His timing was spot on and after that the 'children' started acting more like 'adults'. I did get to thank him for this interjection at the IPCC meeting later that

year in Copenhagen: he said he did not remember saying those words, but I said how important they were.

My last interaction with Patchy was in the months before he died, when he wrote me very friendly letters about climate and food security (I led that chapter, Chapter 7, in WG2 Assessment Report 5) and invited me to the meeting in Mexico with Ash. I presented at the meeting, remotely of course, and it was a great sorrow that he could not attend. So, Patchy gave his life for the most noble of noble causes and of course received the Nobel (no pun intended!) Peace Prize on behalf of the IPCC. He was not a perfect man but he was a doer and an achiever and he fulfilled a mantra that I try to maintain for myself: 'focus, willpower, and energy create results'; in Danish it is 'fokus, vilje og indsats skaber resultater'. Thanks for the chance to relive some of my memories of Patchy.

Tribute to my dear friend

SURESH PRABHU

A friend

The Dr RKP first time in my life in 1998 when I was the minister for Environment and Forests in the Atal Bihari Vajpayee government. I was struck by his very impressive persona. He invited me for some event organized by TERI. I attended it mainly because I couldn't say no to such a polite, genuine, and persuasive person.

Iwas very impressed with the most efficient, sophisticated way the event was organized, as compared to so many others I was invited to by many organizers. I then attended many such trademark events over the next many years. He would have thought about all aspects of the issue on hand, well researched, well articulated, well presented. Most important, he would steadfastly follow it up with rigour with all relevant authorities. His best ones are difficult to mention because there are literally hundreds of them. The Delhi Sustainable Development Summit became the must-attend event for all VVIPs of the world, who would jostle with one another to be invited and seen to be there for such an important global happening. I was approached by a few of them to request RKP to send them an invite—that was the top-class brand he had created.

Dr Pachauri became the head of IPCC, did the most commendable work to earn the coveted Nobel Peace Prize for the organization, with his exemplary leadership. He steered the organization with utmost diligence, deft handling of complex politically sensitive issues, and helped by offering an intellectual, scientific outlook.

He promoted so many young, talented professionals, many of whom now run global institutions. He led probably the biggest organization of its type globally. TERI became a breeding ground for new ideas. TERI was a live laboratory and launching pad for new global narratives, all nurtured by RKP.

He was an outstanding leader, promoted his juniors and budding youth, encouraged them, offered platforms, and global visibility. Was a great mentor to several hundreds.

I have personally experienced the kind of respect he commanded at global platforms, and the incredible relationships he had cultivated with diverse influential leaders across the world. I think he was the best known Indian of his times.

He was an institution builder, champion of noble causes, brand ambassador of social issues, and promoted concerns of the deprived and developing countries with his high-calibre intellectual commitment.

He was looked up to by many all over the world as an ecological saint and warrior of global challenges. World will always remember and recognize his formidable contributions to the global community at a time when issues he advocated had not yet been fully well appreciated.

We must advance his legacy through properly structured ideas to motivate the young and future generations.

Tribute to Dr Pachauri

JOHN PRESCOTT

House of Lords, UK Deputy Prime Minister (1997–2007)

It was with enormous sadness that I learned of Patchy's death last year. I had the deepest affection and respect for him and the enormous contribution he made to tackling climate change. But he was also my friend. He was a warm, funny, and charismatic companion, and I will miss him. When I myself fell ill the year before his death, Patchy somehow found out, and was one of the first to reach out and wish me well.

Patchy will be remembered for many things. Perhaps his most enduring legacy is the way he expertly guided the global scientific community over a period of 13 years at the helm of the IPCC, the Intergovernmental Panel on Climate Change, to a clear conclusion about the causes of climate change. At the start of his tenure, he guided the IPCC in its Third Assessment Report to agree that climate change is 'likely' to be due to human activity. By the time of the Fifth Assessment Report in 2014 the conclusion was that it is 'extremely likely' that human influence was the dominant cause. It is hard to overestimate the importance of this shift in understanding. Of course we still hear the 'sceptics'. But now they tend to say "even if climate change is happening and even if humans are responsible, we don't need to act because it isn't that serious, and acting on it is too expensive." These arguments too are wrong headed. After Patchy's work, efforts to obscure evidence are much harder. For that we all owe him a huge debt.

Very few people will understand the immense difficulties of reaching that agreement. Scientists are by nature strong minded and competitive. But on top of that, the forces and interests arrayed against the achievement of what is now a consensus were huge. Simply being right on the science is of course essential, but it is only the first step. Patchy's unique combination of mastery of detail, guile, and sheer tirelessness were key qualities. But on top of that his charm and sheer likeability were unstoppable. Few, if any, could have done what he did. Indeed, he was a better politician than most politicians!

My very close involvement with Patchy started in the period up to Kyoto in 1997. This was before he became head of the IPCC, but he was already a key global thought leader and actor on climate. I was the Deputy Prime Minister of the UK and head of the UK

delegation, but also of the EU delegation because the UK had the rotating presidency of the EU at that time. I was in constant contact with Al Gore, the vice president of the US. But I spoke just as frequently with Patchy because of the influence and insights that he brought. Putting together agreements at a global level means listening, persuading, and finding creative solutions. Patchy was brilliant at all three.

I continued that close involvement with him all through my career, first as Deputy Prime Minister, and then as a parliamentarian. After I left government I became the senior figure on climate at the Council of Europe, working with parliamentarians from around the world, and I continued to value Patchy's guidance and insights. Whenever I met him or spoke to him, I felt enthused and inspired, but I also found that I always seemed to have gathered a new task or assignment that I needed to carry out on Patchy's behalf! He was one of the most persuasive people I ever met.

Coming as I did from a trade union background in Britain, I always knew instinctively that climate change could only be tackled successfully by designing policies that would be embedded in sustainable development. Hair shirts would not work. If that was true in Britain, it was true many times over at global level. The priority of ministers from India, China, and others I met was clear; it was the development of their countries and lifting their people out of poverty. And they were right. Western voices calling on them to act, when their countries had grown rich through burning fossil fuels, did not resonate, and could even sound like a new form of colonialism.

The solution was to embed climate considerations into countries' growth plans to plot a new path to development. This goal was something that Patchy and I discussed very often, and guided both our efforts.

The good news is that we are now seeing that. Solar and wind energy are increasingly cheaper than coal in much of the world. Institutions like TERI, with Patchy at the top, have played a key part in building the case for these different development paths and overcoming the barriers to them.

There was also much to Patchy that I saw less of but know what a difference he made. Alongside his influential diplomatic and thought-leader personas, he was so clearly a fantastic institution builder and inspirer of new thinking and talent. I know from talking to my own colleagues and team members how Patchy would engage with anyone, without hierarchy or condescension. This speaks enormously to the humanity of someone who had connections at the highest levels across the world. I have looked at the volume produced last year on his death containing contributions from TERI alumni and was much moved by the dedications offered by so many people describing how Patchy had enriched their lives, and those of many others.

It is my great honour to have the opportunity to offer my appreciation of his life, and all he achieved. I will remember Patchy with huge respect. But above all I will look back with deep warmth on Patchy the man: erudite, restless, and utterly committed, but warm, funny, and a wonderful companion.

Fond memories

JAIRAM RAMESH

MP and former Union Minister

If the Advisory Board on Energy, with K C Pant as its chairman and he as one of its members. E A S Sarma and I were the first to join the board's secretariat. For a little over two years, there was almost daily interaction as the board initiated and conducted studies on different aspects of India's energy policy and planning, from both demand and supply perspectives. Patchy made important contributions to these studies, some of which became reference works. We became close personal friends in the process and he would often reminisce about his days in the Indian Railways and at ASCI in Hyderabad. I would very often be at the Jor Bagh premises of TERI, The Energy and Resources Institute, to pick his brains, make use of its library, and the two things we lacked initially at the Board—electronic typewriters and photocopying machines.

I then moved on to other assignments but he and I stayed in close touch. He would unfailingly invite me for functions at TERI and at times also ask me to speak as well. Sometime in mid-February 2007, when I was the Minister of State for Commerce, we had a long conversation on India's strategy to deal with climate change and its stance on global climate change negotiations. We were broadly of the same opinion and I asked him to send me a note based on our conversations which I could then share with Prime Minister Dr Manmohan Singh. He did so (alas, a copy of that note is missing in my archives but Nitin Sethi of the *Times of India* had written about it after I had let him have a look at it). Soon thereafter the Prime Minister's Council for Climate Change was set up, and the prime minister himself would begin to speak about India's global responsibilities.

Thereafter, when I became the Minister of State for Power in April 2008 and the Minister for Environment and Forests a year later, our professional association intensified. The period 2009–2011 was particularly a replay of that in 1983–1985 as far as he and I were concerned, not only because of TERI but also because of the IPCC connection. When I ceased to be a minister in May 2014, one of the first persons to call me and offer help to ease the transition to a life outside the government was Patchy, and I was most touched by his gesture. Accommodating eminent retired civil servants is one thing but even

touching former ministers in this era of toxic politics is quite another. Without my even asking, he wrote to Klaus Topfer and the result was a series of invitations to spend time in Potsdam.

There were some moments of differences between us. In 2009, I thought that the IPCC had been quite slipshod in its report on the retreat of the Himalayan glaciers. In fact, the report spoke of the Himalayan glaciers becoming extinct by the year 2035. A number of distinguished Indian scientists had advised me that the IPCC was vastly exaggerating what was admittedly a grim reality. This scientific sensationalization provided political ammunition to critics of India's climate policy and that was what bothered me. I took it up with Patchy and this controversy led to a review and re-do of the IPCC's peer-review process. The media of course had a field day saying that I had ticked off Patchy but at all times both of us were in constant touch with each other. One outcome of this episode was the creation of the INCCA, the Indian Network on Climate Change Assessment. Patchy was very helpful in getting this off the ground and very soon the first of the 4×4 (4 sectors, 4 regions) assessments was published, setting a trend for such analyses in the future. He was also very supportive of the paradigm shift I was trying to bring about in India's stance on global climate change negotiations and applauded the positions I had taken in Copenhagen in December 2009 and in Cancun in December 2010. He was very amused when I told him that my position was being opposed by some of the Distinguished Fellows in TERI but that did not seem to bother him. I remember his replying to me that TERI is a 'broad church'!

In the mid-1980s, he and I would often talk of TERI and how it should grow. I must admit, however, that I was quite amazed at the speed with which he expanded TERI in different directions from that one bungalow in Jor Bagh. Since then, other such institutions have come up but it would not be an exaggeration to say that TERI was a trailblazer and brought into the field of energy, environment, and sustainability studies and policy a whole new generation of young researchers and scholars many of whom became eminent in their own right later. TERI University too was a landmark initiative but initially some of us had doubts whether it would take off in the manner envisaged. However, I am happy to admit that we were quickly proved wrong.

One issue that he and I would often argue about was the timing of his exit from the institution he had created and nurtured. I would often give him the example of Satish Dhawan who built ISRO and left when the time came and kept his distance thereafter allowing his successors to flower. Once or twice I remember talking about this while speaking at TERI. Patchy was most amused actually and I recall that on one occasion he said that he would have to reconsider inviting me to speak at TERI since every time I did so I only called for his retirement! I am sure the large-hearted person he was, Patchy would not have minded my putting into print this particular recollection of mine.

Patchy combined in himself an enormous capacity for work and a great capability to network—and I use that word in a very positive sense to bring out his natural gregariousness. That is why some of his academic papers had an impact and he was able to bring into the TERI fold – both formally and informally – and into his own universe so many people from different walks of life in India and abroad as well. It was always a delight to meet him and just a few months before he passed away we spoke and he wanted my participation in some initiative he was putting together. Alas, that was not to be.

The Patchy I knew

MIKE RANN

Former Premier of South Australia Board member of The Climate Group, UK and USA

was in New Zealand in February 2020 when I received the terrible news. I had flown from London to meet and say goodbye to my dear friend Mike Moore, former prime minister of New Zealand, but he died just a few hours before I was due to meet him at his Auckland home. Two weeks later, in the car on the way to join Jacinda Ardern in giving eulogies at his funeral, I checked the news on my mobile phone. That's when I saw that Dr Pachauri had also died.

I knew, of course, that Patchy had been ill. He had written to me in December saying he was recovering "slowly but surely" and expected to be fine by late January. He then wrote to me in the New Year and told me how bitterly disappointed he was with the failure of COP 25 to make progress. He emailed again later in January saying he was looking forward to catching up in Durango, Mexico, in March during the World Sustainable Development Forum.

So I was so shocked by the news of the death of a man who one day will be recognized much more fully than he is now for his tireless efforts to prevent a climate disaster for humanity and the natural world. His contribution was immense but he still had so much to do and during his health and other troubles he remained tireless in travelling the world to press the urgency of action in the face of the climate crisis.

Patchy was in the race against time in more ways than one. Most important, he was increasingly engaging with young people. For years we have been telling the young to listen to the 'wisdom of the elders' but Patchy was listening to the wisdom of young people, who were despairing what was happening to their planet because of the short-term greed of those who would leave their mess for them to clean up and were prepared to use friends in politics and in the media to lie to the public to protect their self-interest.

Through the POP Movement Patchy wanted to work with young people to ensure that their energy was nourished, harnessed, and brought together from the ground up from seemingly disparate communities around the world. He was a celebrated expert they admired who didn't talk down to them. Being 'great' is never looking down on those who look up to you, so he listened to young people and was building a bridge between generations to avert future disaster.

Dr Pachauri influenced me long before I first met him in New Delhi. I was elected Premier of South Australia in 2002. Our state, vast in size (almost three times larger than Rajasthan in land area) but small in population, had for well over a century earned a reputation as an innovator and leader in public policy. I wanted us to prove that a "small state" could once again be a laboratory for social change and a beacon for others in Australia and overseas. Why shouldn't 'sticking your neck out' be seen as standing head and shoulders above the crowd? In the absence of national leadership on climate change I wanted South Australia to be a leader that would act as a 'goad to action' to other governments in reducing carbon emissions and embracing renewable energy.

I had been inspired years before by the Canadian environmentalist David Suzuki. So we set up an Adelaide Thinkers in Residence scheme to bring world experts to South Australia to advise us on how we could genuinely make a serious difference in a range of public policy challenges. One of those who came to help was the US scientist Stephen Schneider, who worked very closely alongside Dr Pachauri in a series of IPCC reports as a co-author and at times lead author. Like Patchy, Stephen had an extraordinary ability to distil complex, interdisciplinary science into plain English for non-scientists, including me. Stephen and British environmentalist Herbert Girardet helped our government in so many ways. We introduced legislation in 2006 that set clear and measurable targets plus hard timelines for us to significantly increase the amount of electricity in our state generated by renewable energy and to reduce carbon emissions. IPCC's work had inspired us and even though our law was quite simple it became a benchmark and in some ways landmark for similar legislation in Australia and around the world. We also introduced a solar feed-in tariff law that was a huge incentive, encouraging people to install solar panels on the roofs of their homes. We were helped in our cause when Al Gore, who received the Nobel Peace Prize at the same ceremony as Patchy and the IPCC, publicly praised South Australia for its international leadership on climate action. In a small way we were putting Patchy's ideas to work.

I first met Dr Pachauri at TERI during a visit to India and was impressed with his warm humility. Later, in February 2012, I accepted Patchy's invitation to attend the 12th Delhi Sustainable Development Summit and to join former Californian Governor Arnold Schwarzenegger, who clearly had great respect and affection for Patchy (and was treated like a rock star by the Indian media) plus Delhi Chief Minister Sheila Dikshit on a panel Patchy moderated. Another panellist frustrated organizers by reading a speech for far too long but I think that together we got our message across about how sub-national governments can lead their nations, by example, in responding to the international climate crisis.

We then met in Rome in December 2014. I was by this time Australia's Ambassador to Italy and Patchy was attending the World Summit of Nobel Peace Laureates. He was conferring with a smiling Dalai Lama when I arrived to take him to lunch with an Italian inventor Mario Magaldi who had developed an innovative form of concentrated solar power involving super heating of sand. This allowed the energy to be stored and electricity to be generated long after the sun went down. As an engineer, Patchy was very interested.

We stayed in touch, meeting in England several times. And then, at his invitation, I joined Patchy in Astana in Kazakhstan to address a conference associated with the World Future Energy Expo. We also kicked off a process whereby a small group of us, led by Dr Pachauri, collaborated on writing a manifesto for the President and government of Kazakhstan that included a proposal for a Global Future Energy Institute to be established at the site of the Astana Expo, as an enduring legacy, and for the institute to present an annual 'Astana Future Energy Award', which would recognize individuals and organizations for outstanding contributions on policy initiatives and enlightened advocacy or technological innovations, to be chosen by a jury of eminent experts. Patchy flew half way around the world to get there and jetted off to China while the rest of us had our final dinner. I told him I was worried about the punishing impact of his schedule and work on his health.

He continued to fight on so many fronts.

So, what is Patchy's legacy? In over thirty years he built TERI into a powerful and internationally recognized institute in the sustainability world, which brought great credit to modern India and became a symbol of its growing influence in the world. His leadership of the IPCC saw the reinvigoration of its worldwide influence with a series of warnings that played a major part in galvanizing national and international action with the figure of containing warming to under 2 degrees established as the international threshold.

He added urgency, a ticking clock, to the debate. He championed the cause of low-lying nations and small island states such as the Maldives where the impact of irreversible global warming could become an existential threat. He explained to the world the coming catastrophe of warming and rising sea levels, of devastating storms increasing in their frequency and intensity, and of dying coral reefs such as Australia's Great Barrier Reef. Very significantly in the policy debate, through both TERI and the IPCC, he successfully fused together the challenges of global warming and sustainable development. Perhaps most important, the IPCC's 2014 report, completed under his leadership, served as the key scientific benchmark for the Paris Climate Agreement negotiated the following year. Al Gore said, after Patchy's death, "His dedication to advance the science and raise global awareness of the climate crisis will endure."

Yes, he made mistakes. Anyone who actually achieves anything important does so. Yes, he had his critics. Again, those who are not criticized are rarely destined to make progress. All those who confront rich, vested interests make enemies of those with very powerful voices. I have no doubt, however, that the contributions to the great climate debate of Patchy's critics will one day be measured as puny compared to his.

In March 2020, in beautiful Durango, less than a month after Dr Pachauri's death, the world was just coming to grips with the scale of a new global crisis whose impact knew no national borders. This time it was the COVID 19 pandemic that is bringing immense suffering and heartbreak to India and to every continent. During our proceedings in Mexico, under the energetic leadership of Dr Pachauri's brilliant son and daughter, a giant photo of Patchy looked benignly down on us from the stage. Seeing his face was both a sad reminder of loss and a symbol of encouragement and inspiration.

Dr Pachauri's influence continues, through Joe Biden's big new climate push for the United States, to the EU's Green Deal, through the work of Prince Charles and the World Economic Forum on their Sustainable Markets and Terra Carta initiatives and in conversations and agreements between world leaders at the G7, G20, and at COP.

Patchy provided the technical armoury and advocacy to propel the world towards a positive momentum for change. He played a major role in giving us the title deeds to save our planet.

Yes, Al Gore was right; his work will endure. Patchy will also live on through the love of his family and the work of his children, through TERI, WSDF, and the POP Movement, countless friends and colleagues he inspired, and in all our memories.

Moving on

IZARELLY ROSILLO

Researcher on human rights, climate change and sustainable development at the Law School of the Autonomous, University of Querétaro

othing can stop us if we have the intention of doing it" - Rajendra Kumar Pachauri (from a speech delivered in the Dominican Republic on 19 September 2016).

It was eleven o'clock when I received a text message from Mr Omar Ramírez Tejada, President of the National Council of Climate Change and Mechanisms of Clean Development in Dominican Republic, "Today you'll meet whom you admire and a great friend; you are invited to hear Dr Rajendra Kumar Pachauri, do not miss it!" My heart started to beat faster. I had followed Pachauri's career path in the IPCC and he was my inspiration to write the Waste Act with a focus on reducing greenhouse gas emissions.

I had worked as a consultant for the Dominican Republic since 2014 and I promoted the approval of the National Waste Act; after two years of an intensive socializing project, which comprised more than 400 conferences, tens of technical reunions to improve the project of law and as many debates within the Chamber of Deputies, we accomplished a great paper product of teamwork, which was presented as the Act project to the Commission of the Chamber, for them to decide over the fate of our proposal. We had had a humongous challenge in front of us yet, to finish the project in six days including the adjustments required by the Commission. I worked day and night for four days to finish the project on time; I slept no longer than three hours every night during that span. I had my flight to México City scheduled for the 20th of September, 2016, and I had to send the project before I left. The invitation from Mr Omar Ramírez for the eve of that date jeopardized the fulfilling of my responsibility to complete the Act project. Thus, I had to excuse myself and skip attending the conference in which Dr Pachauri was the guest of honour.

On that day, 19 September, at noon, I left the hotel where I had been staying in the search of a drugstore and of some food, because the project had consumed my brain, and I needed some fresh air. I received a call from the Congress, asking me about the state of the project. As in the need of giving them a documented answer and while checking

my notes, I heard somebody's voice at the men's clothing section of the store. The owner of the voice was buying a belt, as he explained to the clerk, an amicable lady, that, he always forgot to take something with him in every trip, this time, he asserted, it had been his belt. I finally heard that he was five dollars short. As soon as I finished my call, I asked him if I could pay the balance. He was very grateful, I greeted him, and then we parted ways. I left the place with the Act project in mind and I saw him leaving together with his hat and sunglasses.

At ten o'clock, my companions and friends sent me photographs of the event, and there was the 'man with the belt': I had met him but failed to recognize him! How could that happen? I regretted being so distracted, I had so much to tell him and ask him, about his life and his experiences in the IPCC; I wanted to share with him the benefits that the Waste Act would bring to Dominican Republic with the application of the circular economy, the elimination of single-use plastics and mitigation of climate change, but I wanted the most was to tell him that he had inspired the work of lots of people in this project.

I completed my work and sent the project to the Congress around 4 in the morning. My flight was scheduled early, and, as I entered the VIP lounge at the airport, I couldn't believe what I saw. Yes! Dr Pachauri was there! In the same waiting area! Life had given me a second chance to talk to him and to convey to him what was in my heart. Today I am still convinced that we were destined to meet. I sat by his side and I asked him if I could take a picture with him; he agreed and we had a long conversation. I told him that Omar Ramírez was my friend and that I couldn't attend the conference; I told him everything that was in my head and in my heart; I told him that I had followed his life history and that I admired him, we exchanged cards and said goodbye.

In 2018, I received an invitation to participate in the World Sustainable Development Forum (WSDF) and that was the place where a great friendship and an important collaboration started. During the WSDF organized by Dr Pachauri, I had the opportunity to talk about the challenges of education in México, as well as about the role of the young people and the big leaders required to promote a culture based on guaranteeing human rights linked to climate change. Dr Pachauri walked towards me and asked me to write to him, as he had something important to talk about.

A few weeks later, I decided to write to him. Earlier, I had shared with him my interest in supporting the idea that the next Forum be held at Universidad Autónoma de Querétaro (UAQ). He agreed, and I began the event organizing process. At the headquarters, we worked on the planification and often met in México City just as through Skype. Every time we finished a meeting, I wondered how I have had such a lucky strike: meeting him and having the pleasure of working with him; something good I must've done formerly in my life, that was for sure!

We worked on a project for defence and climatic justice; we would present a case in the International Court; he would be the expert and I would be on the defending side along with another lawyer befriended to him. We started to prepare the case to get a favourable decision and thus be able to enforce a judicially ordered compliance of the Paris Agreement according to its goals. On 8 September 2018, Dr Pachauri visited the UAQ, participated in two conferences and got to know the project of the Waste Act and circular economy that I made for the Mexican State of Quintana Roo. We moved to Cancún to present the Act project and met with the Governor of the above-mentioned state. He addressed a conference in the presence of different personalities from Quintana

Roo. The state honoured him and he presented the Act that I had drafted. He talked about the importance of taking care of the oceans and the elimination of single-use plastics, due to the pollution they represent, and its harmful effects on sea life. He then returned to India and I, to Querétaro.

While I was in China and he was in India, he told me that the WSDF wouldn't be in Monterrey. I was aware of the delicate state of his health, which was the reason why I began to search for new headquarters and sponsors. At that moment, on September the 6th, UAQ and the Government of Durango signed an agreement and that's when I proposed to them that the UAQ be the headquarters for the Forum. After weeks of negotiations and agreements, I called Pachy to give him the news: we had headquarters for the Forum! This made him exuberant and he told me he was grateful to me for accomplishing it. This is how we began the work to get an agreement with Durango and continue with the organization of the Forum. On 1 November 2019, he asked me to call him and proposed me to be I be part of the local organizing committee: I was speechless for a few minutes and then I told him yes a thousand times and that it was one of the greatest news in my entire life to date. Can you imagine? My dream had already been crystalized: to work with the person that I humanly and professionally admired the most!

In November 2019, he asked me if we could talk using Skype. During that call, he told me that his health was preventing him from attending the Forum and then he said some very beautiful words to me: he knew my life story and he had met my family; he knew that adversity, loneliness, violence, and pain had left deep scars in my life; Pachy told me to never forget that I was a wonderful and virtuous woman. I still recall his words: "The souls with a light like yours, must transmit it and spread it, because only in that way you can show the love and peace to the entire world, but most importantly, the hope that reflects your life; don't be scared of the persecution because the peace that the truth will give you will never be given to you by anyone; remember, we are all one family."

Pachy had a heart disposed to the world. He was a father and a mentor to me; he was a committed man full of light and life to the world; he worked long hours to benefit the humankind and dreamt of promoting a change for the world sustained from the heart. His hope was focused on the youth: "They will be the ones boosting true changes, because they will have a different world from ours".

Pachy has left a legacy to all his friends; in my case, I will always have a place for him in my heart. I pray for his family, his children and wife, for the great family they built that brings peace to all of us. His words will always be in my heart, "Nothing can stop us if we have a true purpose in doing it", because there isn't death, there is moving on.

Thanks, Dear Pachy! Up there in heaven I hug you dearly!

Tribute to Dr Rajendra Pachauri

TIAHOGA RUGE

Environmental Educator and Communicator, Expert in Climate Change, Mexico

met Dr Pachauri in 1984 in New Delhi.

I had arrived at the end of October as Cultural Counselor at the Embassy of México in India.

It was then that I first heard about the efforts and research in solar energy at TERI, the Tata Energy Research Institute founded in 1974, which later developed into The Energy and Resources Institute in 2003.

Shortly after my arrival, I had the opportunity to meet Dr Pachauri, who already was the Chief Executive Officer of TERI, and to learn about the work he was doing.

I was very impressed and inspired by the advances TERI was making in the field of energy and sustainability at a time when this was still in development and not in the mainstream of public policy as it is today.

Also, it was the beginning of the collaboration between México and India in the field and also the beginning of a friendship that would last for more than thirty years!

On my return to México in 1989, I started to work in the environmental field, very much inspired by the work TERI was doing in India.

But it was not until 1998, when I saw Dr Pachauri again: this time as a member of the same Sustainable Development advisory group.

It was here that he invited me to attend the first DSDS, the Delhi Sustainable Development Summit, in 2001.

I made all efforts to attend the first Summit and then tried to attend each year.

The DSDS was the most interesting summit on sustainability, and Dr Pachauri managed to get the top experts of the world together, at a time when finally sustainability was within the mainstream worldwide and concrete patterns had to be found in order to make the change.

It was an event I did not want to miss!

Furthermore, it was an event that incubated a new vision towards sustainability and created personal interaction and creativity among experts.

Later, Dr Pachauri was invited several times to México by President Felipe Calderón, who became his personal friend and in 2013 he was our main speaker at the Green Solutions Meeting in the state of Morelos.

This led to México's next official visit to India, with the participation of the Governor of the State of Morelos in 2014, with the idea to start a similar summit in Mexico. During this visit, we also visited the installations of TERI and TERI University, a most impressive growth and advance of the institute!

This visit started a whole new era of collaboration between México and India, which still prevails and has grown and developed substantially.

The last time I saw Dr Pachauri was in México City, in February 2019, when he actually organized the first WSDF, the World Sustainable Development Forum, in collaboration with the Mexico City government and Iniciativa Climática de México.

One year later, in March 2020, the WSDF was held in Durango with great success, but unfortunately Dr Pachauri had already departed to another destination.

I honour Dr Pachauri for his legacy and determination to make the world aware of the great change we need to do towards sustainability and most of all for his friendship and human quality.

Thank you Patchy; you are in our hearts!

Rajendra K. Pachauri's contributions to sustainable development and generally to climate change

ASSAAD SAAB

Former Vice President, Prospective and International Relations, Electricité de France

Then I think of R K Pachauri, I remember him exactly as I first met him some thirty years ago at a large international energy conference. The recollection that I have is that he was already in search of a global vision that would do justice to the uncertainties and complexities of the industrial society, with its economic concepts, its markets and business firms, but also with its multiple players; he was already strongly aware of the key role of environmental policy and governance rules.

We maintained close contacts over the years and visited each other whenever possible. I have specifically followed his major contributions to climate change, sustainable development, and globalization of energy policies. I have participated in a dozen of the Delhi Sustainable Development Summits organized yearly by TERI since 2001. R K Pachauri was a pioneer in promoting transdisciplinary perspectives, connecting researchers, policymakers, and business managers with different backgrounds in pure science, engineering, economics, social and political sciences as well as geopolitics. His aim was to better understand and share the challenges of environmental and energy issues as well as their policy dimensions in order to create a productive dialogue among the various players.

Under his leadership as chairman of the IPCC, the Intergovernmental Panel on Climate Change, climate change became an international political issue of high importance and of primary concern to the world economy, extending far beyond the energy sector. Industrial companies, insurance and banking companies, political leaders, international institutions, environmentalists, and scientists are now the multiple players of this large group, which combines a concern for warding off major disasters and aim to reconcile

the environment and economy. This compromise hides in fact a ferocious competition in which the North–South dimension remains an essential component and highlights a number of difficulties including the demographic challenge, urbanization in the industrialized countries and the mega cities of developing countries, the depletion of natural resources, and the consequences of climate change.

As far as the energy transition process is concerned, R K Pachauri was extremely aware of the emergence of a new geopolitical order. On the one hand there are developed countries reviewing their energy systems and gradually adopting low-carbon technologies and replacing their installed capacities. On the other, the emerging and growing countries – India, China, and those in Africa – where decisions are being made today about new additional capacity which in fact are crucial. For R K Pachauri, this is precisely where the true potential lay, because if these countries decide to adopt low-carbon solutions, they will make a decisive contribution to the global transition. However, if they choose to rely on traditional technologies, our planet will remain tied to large-scale carbon emissions for another thirty to forty years. This is why R K Pachauri believed and advocated that the developed countries should strongly help the emerging and smaller countries to adopt and implement the new low-carbon technologies.

I am very happy to have this opportunity to honour R K Pachauri, whose imaginative work and initiatives continue to be a source of insight and knowledge to all of us and especially to the youth through his more recent initiative, the Protect Our Planet movement. At this point I would like to pay tribute to the memory of an outstandingly intelligent, constructive, and open-minded friend and to his exceptional role in providing the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts.

A tribute to my friend and brother, Dr R K Pachauri (Pachy)

ANJALI SAHA

Epidemiologist and community health specialist

t is my honour to be able to write a few words about a man who was an all-rounder, not only in cricket but also in life.

When I first met Pachy, I was very apprehensive about my relationship with him. After all he was my best friend's husband. It is well known that most husbands do not take kindly to their wives' best friends. But to my pleasant surprise I found him very amicable. He welcomed me into his family with open arms. I remember instances when I made serious mistakes and the entire family was against me—but not Pachy. He told me that I was family and everyone would soon forget and forgive. He was so right.

To Pachy, his family was everything in the world. He adored his children but at the same time was a disciplinarian. He was young at heart and therefore got along well with his kids.

One characteristic of his nature was a drawback for us around him. He had difficulty in brooking an argument. Most of the times he thought he was right. I must admit he was often right. I had such an argument with him and there was cold war between us for some time.

He was very proud of the achievements of his children and his wife. The Pachauris are a very intelligent and intellectual family. But to Pachy's credit he never resented the success and fame of his wife, Dr Saroj Pachauri. As a matter of fact, he was always ready to give her advice when needed. This only shows his self-confidence.

Regarding Pachy's professional achievements, these are well known in India and abroad. It is no small achievement to build an organisation and take it to the peak of fame. Today TERI is what it is because of Pachy's dreams and hard work. He was a real workaholic. He dreamt big and fought hard to make his dreams into reality.

Climate change is another area where Pachy has left his mark. When people talk of climate change, they think of Pachy. His warnings are now coming true. No wonder the IPCC, under his chairmanship, earned the Nobel Prize, which is not a small achievement.

When Pachy left TERI, he did not sit back and relax. He started getting more involved with international projects. In this he was very ably assisted by his son, Dr Ash Pachauri.

It is unfortunate that Pachy left this world so early. He had so much more to contribute.

I would like to conclude this tribute to Dr R K Pachauri by remembering his contradictory characteristics of egotism and consideration. I think every achiever and leader has some egotism in him or her or else he or she will not be able to succeed and make his or her dreams come true. Pachy's dreams were for the betterment of humankind. On the other hand, he had a considerate side to him that was evident when needed.

I am very happy to have known Pachy and to have had him as a friend and a brother. May God rest his soul in peace.

Patchy: A giant footprint

VINEY SAHGAL

Non-executive Chairman, Yuva Healthcare Skilling Pvt. Ltd.

Thave been uniquely privileged to have known Dr R K Pachauri for over six decades. When we first met, we were both pimply-faced teenagers. It was in February 1959 when we both landed at the portico of the Jamalpur Gymkhana as Special Class Railway Apprentices.

Over the four years that we spent as batchmates in Jamalpur, we formed a bond that was lifelong. During our training period, Pachauri – Patchy to his friends – developed and displayed the attributes and traits that shaped his future career. He was exceptionally bright, hard-working, totally focused, was endowed with a great sense of humour, was a fantastic mimic, and also an accomplished actor.

He excelled in whatever he took up, displayed great initiative and leadership qualities, and eventually topped our batch. He was a good cricketer, and his love for cricket stayed with him almost till the end.

He had an impish side and was adept at fashioning pranks and practical jokes, but fortunately they were usually taken sportingly.

His mimicry spared no one, and would invariably have us in splits.

We were quite friendly with the executives of the ITC in Monghyr, and together we staged a play Angels in Love in Calcutta, where Patchy played the lead role. Since I could not act for nuts, I ended up being relegated to the position of the man behind-the-scenes with the lowly job of designing and putting up the sets!

After we graduated from IRIMEE, the Indian Railways Institute of Mechanical and Electrical Engineering, Jamalpur, both of us along with our fellow batch mate the late Onkar Nath Kohli, widely known as ONK, were assigned to the Northern Railway and did our second phase of training together. During this period, we were generally referred to as the 'Three Musketeers'. We were co-conspirators in many escapades, the details of which I am not at liberty to disclose.

On completion of the training period, both of us landed up at the Diesel Locomotive Works in Varanasi, and we were colleagues during the start-up phase of that prestigious project. At that time, I happened to be a married man, and Patchy a very eligible bachelor. Saroj was doing her MD along with my late wife, Kusum, at the Banaras Hindu University, and was staying with her cousin, Chiranjiv Singh, aka Channi. We would often go out as a group for picnics in the vicinity of Varanasi.

It was during one of these picnics that both Kusum and I felt that both Patchy and Saroj were conducting themselves in a manner hardly consistent with just casual friendship. Suffice it to say that eventually, with some assistive role played by us, they finally tied the knot.

During this period, Patchy happened to take my infant son under his wing, and would teach him to address him as "Abey Patchy, Saley". I can only reveal that it took several years for me to get my son to address him more respectfully!

I recall one incident where Patchy landed up at our house in the dead of night, dressed in a saree and, behind the ghunghat, spoke very convincingly in the high-pitched voice of a woman. We were totally taken in. Afterwards, we shared a good laugh together.

It was not all fun and games, however. During this period, Patchy displayed a single-mindedness of purpose, the capacity to focus relentlessly, and organizational capabilities that marked his spectacular success in whatever he took up in his later career.

Our paths diverged after this, and while I resigned from the Railways in 1969 to join the private sector, Patchy went to the US for his post-graduate studies including a PhD. My wife and I visited Patchy and Saroj in Raleigh, and we spent some memorable times together.

After his return to India, for a while he was in Hyderabad on the faculty of the Administrative Staff College of India, which he described, with his usual impish humour, as a very small college with a very large bar attached! This whetted my curiosity so much that I went to verify it for myself. He was right!

I have seen the way he built up TERI from scratch. What started as a modest small-scale endeavour grew under his leadership to the internationally renowned institute that it is today. His subsequent elevation to the post of the chairman of IPCC was such a source of pride for us! He achieved so much, and established himself as a true visionary. He won so many awards and accolades, consorted with the high and mighty, with movers and shakers, but remained grounded. His contribution to the field of the science of climate change, and the evangelical zeal with which he projected the dangers of inaction, will never be forgotten.

He had to overcome many odds and had to face the might of the oil industry lobby. He told me about the threats he had to face and disclosed that there were around 2200 lobbyists in the US alone, working full time to undermine the science of climate change. Yet he continued with missionary zeal, and never once wavered or faltered from his commitment to the cause of promoting environmentally appropriate policies.

Under his guidance, the dedicated team of scientists at the IPCC continued to produce very carefully and meticulously researched reports that have been greatly instrumental in creating awareness regarding the science of climate change, and which have continued to be the go-to reference points, which have influenced governments and policymakers in crafting appropriate responses to the emerging threats posed by anthropogenic despoiling of our environment.

Patchy has created an enduring legacy that will continue to influence global policy in times to come. He has left behind indelible footprints on the sands of time, and has influenced so many whose lives he touched. He will never be forgotten.

Commemorating Patchy

MAKI SATO

Project Associate Professor, The University of Tokyo

Thile I am writing this, I still cannot believe that Patchy has left us so suddenly. But perhaps that is his way of showing me his kindness, that we can keep on playing hide-and-seek using our little planet as our playing ground. In the early spring of 1998, I first met him, kindly arranged by Prof. Dr Yoichi Kaya, under whose guidance I was pursuing my master's degree. My interest in the economic development pattern and its path in relation to the consumption pattern of the energy mix led me to to conduct research in Indian villages, where the use of firewood, mustard stalks, cowdung cakes, and charcoal was still common. My naivety led me to think that India may be the next world-leading country with its high use of biomass (carbon-neutral) energy, under the constraint of carbon emission cap to tackle climate change. Such an idea came from what Prof. Dr Kaya showed in his Kaya equation, namely that energy usage and economic development are correlated; however, such correlation has an adverse effect on the environment (climate change) or reducing carbon emission.

I stayed at TERI for about six months to conduct my research in Dhanawas, a small village. However, I occasionally went to TERI's headquarters at India Habitat Centre to catch up with Patchy. TERI had elevator boys, copy boys, tea boys, drivers, and receptionist ladies working in the office. They all greeted me in a friendly manner, and I always felt like going back home as a family member of TERI whenever I visited there. I feel very nostalgic when I remember how Patchy took good care of me as his adopted Japanese daughter during my stay. He allowed me to hop into his office just to say Hi or have a quick cup of tea without making an appointment. While chatting, he never failed to make sure my hotel and food were okay and asked what I do on my weekends and so forth. After getting my degree, I continued contacting and bothering him, asking him to chair sessions at international conferences, invited him to Japan several times, and was looking forward to briefly catching up with him annually during UNFCCC COP/MOP. And that continued even after he was elected Chairman of the IPCC. No matter how busy he was, he tried to make time for me, even during important meetings. I recall how we communicated when we accidentally bumped into each other during the COP/

MOP. While we were commuting from one conference hall to the other, he was curious to know if there was anything he could help with and made sure I was doing fine.

Although he was a busy global traveler, he always tried to call me when he was in Tokyo (so I had to let him know that I was no longer in Tokyo while working for the UN ESCAP!). It was always a surprise call, and he would say, "Hi Maki-san, this is Patchy calling from your town!" Somewhere at the back of my mind, I am still expecting his call. For me, Patchy was a jolly person, open-minded, bright, and full of energy, always with a big smile and a deep and warm heart. His green-brown eyes were always twinkling when he was happy, and it was super easy for me to detect what he had in his mind just looking into his eyes. I always used to bring his favorite sesame cookies from Japan whenever I had a chance to meet with him abroad. I recall his love of playing cricket and how I used to tease him for his injuries after playing cricket games. Once I just went to see him off to the airport from a conference hall. He said I didn't need to, but I just wanted to say hi and bye face to face! There was also a time when he left his swimming gear in the hotel room in Tokyo, and I kept it for him and took it back to Delhi on my next trip. When he received it, he blushed and looked super embarrassed that Japanese service is too much sometimes! Patchy also tried to teach me how to eat curry with hands, that eating with hands would let us feel that we are being connected with mother earth. Patchy was, needless to mention, a vegetarian. However, my hands were terrible at mixing the sloppy curry and rice, and I told him that I am left-handed, so I may do better with my left hand. When he heard me say so, he smiled and just called the waiter to bring me a spoon and joked that now he fully understood why we eat onigiri (rice balls) in Japan. He gave up on teaching me how to eat curry and rice in proper Indian style using hands. Yet, one crucial teaching still remains with me. The gist of eating curry is about mixing the various food on the plate in a small mouthful, portion by portion. The more you mix them carefully enough, all the different tastes and ingredients on your little plate will start playing a complex yet harmonious single taste in your mouth! Every time I eat curry, I mix them carefully, as Patchy showed me. Eating foods without mixing them is good, but the taste changes dramatically if we mix them more. And I believe that was what he was trying to do all through his life: integrating the knowledge of engineering, economy, and politics to come up with better solutions to simply better the world.

Patchy used to say, "We need to think back to look ahead." It is good to develop, and nobody refuses development. However, we have from time to time need to think back and re-adjust our way of developing to better our common and shared future. "How can we develop without suppressing the poorest of the poor but can flourish together hand-in-hand?" was the question he posed me in our last conversation. While waiting for his sudden call, telling me that he was just absent for a while and that everything is going on great as usual, I am still working on the riddle he gave me. Trust that he will call me once again as he used to in his jolly cheerful voice, as if nothing has happened.

Patchy

NORMA PATRICIA MUÑOZ SEVILLA

Honorary Distinguished Mentor, POP Movement, Professor and Researcher at CIIEMAD-Instituto Politécnico Nacional, México

ow to express the emotion that my heart feels when remembering and thinking of a loved one who gave us great life lessons? I will refer mainly to that human being that our dear Patchy carried inside.

It was on a very unique day in my life that I personally met the great scientist of whom I had heard and read about so many times. He was there with his impressive presence and his firm walk, in my own institution, ready to address hundreds of young people who completely filled the main auditorium of IPN, the National Polytechnic Institute.

Thinking of a Nobel-Prize winner and chairperson for many years of the most important organization in the world, UN IPCC, the United Nations Intergovernmental Panel on Climate Change, seemed like a distant dream in life. And right there and on that day, the unforgettable Dr R K Pachauri was there to speak to us, with remarkable simplicity, about the causes and effects of, and possible solutions to, the impacts of climate change and to invite young people to work hard to forge a promising future for the planet and to take climate action. It was the right moment to invite the students to be part of a great youth movement, the POP Movement, an organization founded by Dr Pachauri himself and his son, Dr Ash Pachauri.

The first meeting with Dr R K Pachauri was during breakfast after his conference at the IPN. I was very surprised by the invitation and it was just during our talk that I perceived that simplicity of treatment I knew would be a lasting friendship in the face of the commitments that Patchy had gladly made in Mexico, a country that he considered as his second homeland. Supporting him in the organization of the first World Sustainable Development Forum, in February 2018, was a real pleasure and life experience. I will always be grateful to him for having considered me to be part of his work team, becoming over time a part of his loving and warm family.

Fate allowed us to personally share not only weeks of his life, but entire months in which I could observe that he, Patchy, was a human being like many of us, simple, affable, intelligent, sharp in his comments and with great sensitivity for the lives of all the

people who from far or near were always in his thoughts. Moments of joy, also difficult moments in his life, were shared for long days and nights, always with optimism and love for life, having faith in a promising future and making plans for years to come. Ash was always there, with devotion and love, with that patience and understanding that is only given to a loved one. We will never forget those moments.

I am sure that Patchy left in his wake not hundreds but thousands of friends and recognitions to his long career dedicated to science and technology, with a single objective, to face climate change that he had already pointed out many years ago and that was the greatest threat to humanity.

Dear Patchy, you are with us, you continue to be our guide and beacon to reach a good port. You continue to be the light that illuminates our hearts. Wherever you are, you will feel proud of what is being forged today to honor your name and your wishes for living in a better world, that great idea and desire to form a universal family is being achieved little by little. Receive all my love and admiration for our family.

Salute to the charismatic Dr R K Pachauri

USINGH

Former Professor and Head, Department of PMR, AIIMS, New Delhi

In fact, I did not even know that I was in touch with him through his family. In fact, I did not even know that I was in touch with him through his dear ones: his wife and son. The influence of his gentleness, gratefulness, simplicity, knowledge, and sophistication was reflected well through his son, Ash. I did not even know the family of Ash, whom I was treating until a request was made by him to see his father. Dr R K Pachauri was absolutely unassuming on his first visit to my office. He had a very pleasant aura around him. He was rather nonchalant about his ailment but more concerned about my time and his other appointments and sort of dismissed that he had any health issues. This showed his dedication to his work irrespective of his personal problems. Of course, his loving family was more concerned about his travelling to different parts of the world – having breakfast in London and dinner in New York and so forth – taking a toll on his health but was still carrying on unconcerned and dedicated.

In between his travels, he would come for a short visit, smiling, exchanging pleasantries, and not talk about his health issues but concerns for his aides including drivers and workers in the office or at home. Worrying about others was an amazing thing which was very well appreciated by his colleagues and subordinates. They used to take him as a godly personality always ready to look after them. Each one had a story to tell how they and their families were looked after in the times of their needs. Dr Pachauri did have his personal health issues bothering him and he would take a small consult on whether it would be safe for him to travel and irrespective of the advice, he continued to exert and seek medical attention with great difficulty abroad making him sicker and confined a couple of times in difficult terrains and poor health infrastructure in certain countries he was visiting. It happened to the extent that he had to be airlifted a couple of times from other countries straight to the hospital. Undeterred, he continued to serve the humanity through his expertise valued all over the world.

I have sat with him and talked briefly on varied subjects. His demeanor was so amiable, which sort of clouded the impression of his being a personality sought after. Despite his sufferings, he still strived to be active and deliver. I have heard him speak at international fora where he was appreciated with halls bursting beyond their capacity. His bonding with people of all strata was a hallmark of his personality. Irrespective of the sad turmoil at his office he never stopped delivering to the world. This sadness did not stop him although it showed a bit of perturbance at the back of his facade without being obvious. He carried himself gracefully with dignity undeterred. The 'shanti path' done by the family with his friends, colleagues and relatives was a reflection of the goodwill earned all through his life. The values he looked up to were so much obvious in the appreciations rendered by those present.

I would remember him as a charismatic personality full of wisdom and zeal for striving to make this world a better place. A wonderful human being to have been blessed to make the efforts to make this earth a blessed planet. God does not send such emissaries often.

Understanding climate change from a base in the Himalayas: a tribute to Rajendra Pachauri

VICTOR SMETACEK

Professor Emeritus for Bio-Oceanography, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany

ajendra Pachauri and I both grew up in Nainital, a hill station built around and above a lake at 2000 m elevation in the Kumaon foothills of the Himalayas, just west of Nepal. We attended the same school – St. Joseph's College – albeit four years apart in the early 1950s and our parents were good friends. I have vague recollections (I might have been 4–6 years old at the time) of how happy and excited everybody was whenever Family Pachauri came to visit us in our winter quarters, at first in Naukuchiatal and then (till today) in Bhimtal, some 20 km away and 500 m below Nainital. The effect of altitude on temperature was significant: the winters in Nainital were shiveringly cold but bearable in Bhimtal. The experience of going from cold to warm in just an hour's drive, down winding roads in a rickety bus, was inculcated in us children. Unfortunately, the contact petered out after Family Pachauri moved from the summer capital Nainital to the 'regular' capital Lucknow of the state of Uttar Pradesh at that time.

More than 60 years later, our paths crossed again, this time in TERI, The Energy and Resources Institute, Delhi. Although we had been active in very different fields up to that time, he in engineering and economics and I in biology and oceanography, we were both treading common ground in our views on climate change: that it was a serious threat and that CO2 concentrations in the atmosphere needed to be reduced to well below 350 ppm to combat it. At that time (around 2012), I just took his views for granted because we agreed; there was no issue to argue about. However, while writing this piece, I realised that the mutual agreement was not just happenstance and that our common

background and lives spent on the steep slopes of the Kumaon foothills also primed us by shaping our sensitivities and mindsets. At least in my case, it was the reason why I was convinced, at an early stage, that rising CO2 levels in the atmosphere could well lead to the warming that would cause climate change. Allow me to relate my own narrative of what led me to take the stand I chose regarding climate change as early as I did, because it will shed light on the ground on which Rajendra's firm roots were anchored.

By the mid-1990s, the weight of evidence from multiple sources for ongoing climate change was massive but not sufficient to convince everybody, even those without an agenda. I experienced this climate-denial impulse first-hand amongst my own colleagues - the heads of the departments covering the range of disciplines biology, geology, chemistry, physics and meteorology - with some of whom I used to have heated altercations. Clearly, facts alone are insufficient; there also has to be an element of preparedness, a priming, a willingness to acknowledge and understand the data and stand up to the conclusions drawn, regardless of opposition. This was the mettle Rajendra showed when he skilfully steered the IPCC, the Intergovernmental Panel on Climate Change, in the direction accepted today, but to the consternation of those who had helped to appoint him then. From where came the strength of conviction and the courage to steer a large, varied, international organisation in the right direction but not in the one intended by one's backers? I suggest that growing up in Nainital, implying that you spent the winter at lower altitude, prepared one to believe that humans could change the climate. I will explain this thesis below beginning with the geography of Kumaon.

Kumaon occupies a broad slice of the southern slope of the Himalayas, from the rugged crest to the flat Indo-Gangetic Plain. It is the western extension of Nepal, and its highest mountain, Nanda Devi, is the pivot on which the Himalayas swing north to Kashmir after their mainly east-west alignment through Nepal. Plants and animals belonging to both the biogeographic provinces of the Palaearctic (boreal to temperate) and Indo-Malayan (subtropical to tropical) meet and mingle along the forested slopes of Kumaon. This zonal diversity is compounded by that of altitude, which determines the composition of the vegetation. In Nainital, we schoolchildren lived in one vegetation zone along the lake – low-altitude oak – but attended school on the top of the hill in another zone – high-altitude oak and cedar (deodar) –, all experienced in one morning's trudge. A 200 m altitude difference was reflected in changes in vegetation even a layperson could not avoid noticing. How could one not be moved by the diversity and variety of the environment one lived in? A love for nature and a commitment to protect her was almost a natural outcome. The Chipko movement, which gave rise to the enormously successful 'tree-hugger tactic' worldwide, originated, not surprisingly, in the hills of adjacent Garhwal. The human-nature attachment is deep-seated and intense.

Because of my interest in biology and my father's German origin (he became an Indian citizen shortly after independence), I was awarded a scholarship in 1964 to study marine biology in Kiel, Germany. I chose the subject because I wanted to do something useful and, in those years, it was mainly food security. I became a bio-oceanographer and, after joining the AWI, the Alfred Wegener Institute for Polar and Marine Research in 1986, moved into the field of climate science as the role of Southern Ocean productivity in regulating atmospheric CO2 concentrations during past glacial/interglacial cycles was emerging. I chose to focus my research on ways to harness ocean biota to sequester CO2 from the atmosphere. I was invited to collaborate, as an adjunct scientist, with the CSIR

NIO, the National Institute of Oceanography, in Goa. Rajendra re-established contact when he recognised my name in connection with the Indo–German iron-fertilization experiment LOHAFEX carried out by AWI and NIO in 2009 and invited me to TERI on my next visit to India. I felt honoured and gladly accepted. We talked about our common roots in Kumaon, how global warming was driving the apple orchards uphill, and about climate change in general.

Both of us had recognised early on that climate change was happening and that fossil-fuel burning was driving it, implying that the excess CO2 had to be removed from the atmosphere (negative emissions). The atmospheric levels we had to strive for were well below 350 ppm, i.e., a substantial amount had to be collected and safely sequestered. In my case, the commitment to do research on combating climate change was manifest in the three open ocean iron fertilization experiments, starting in 2000, that I directed; the last one (LOHAFEX) in partnership with Wajih Naqvi of NIO. In the case of Rajendra, his commitment to the planet was exhibited on the world stage when he steered the IPCC to the richly earned Nobel prize. Both he and I had seen the same data as everybody else and joined in the same discussions on the pros and cons of climate change but in different conferences and meetings. So how were we convinced, when others remained sceptical?

My initially subliminal conversion to climate-change science came from birdwatching: not the proverbial caged canary in the coal mine, but the movement of free-ranging birds along the cool outer slopes of the lofty Himalayas overlooking the hot Indo-Gangetic plain. Ever since I can remember, I had been fascinated by birds and, starting in the 1950s, made a detailed list of the species I had observed in the Lake District of Kumaon with notes on distribution, status, and habitat which I updated during my visits from Germany. During my fourth visit in the spring of 1973, I noticed that all nine of my new entries, from a total list of about 250 definitely identified birds, were typically lowelevation species with not a single high-elevation species among them. I wrote a note on my observations, titled 'On the increasing occurrence of typically plains-birds in the Kumaon Hills', which was published by the Journal of the Bombay Natural History Society in 1975. Here are some excerpts from that note: "This extension of range by the abovementioned birds, could indeed be interpreted as further evidence that the climate in these hills is undergoing a slow change." "It is my sincere hope that these 'new developments' within the bird community are not an indication of other, more profound changes to come in the ecology of this area." "As neither my family members nor I am in a position to undertake further studies of this phenomenon yet, it was my aim to draw the attention of others to what is perhaps a new problem." Of course, there was no talk of climate change at that time and if at all, people were wary of an impending ice age. But the 'new problem' has since been thrust upon global humanity in the form of greenhouse-gas driven global warming resulting in overall climate change.

I believe that a major reason why people living in India were more likely to accept that climate change was ongoing than those living in temperate regions had to do with the rainy season. While I was growing up in the 1950s and early 1960s, the weather was, by today's standards, incredibly predictable. Weather was simply not a topic of conversation the way it was in Europe, in particular Britain. No doubt, people complained when it got too hot in summer, too cold in winter, or when particularly heavy downpours in the monsoons marooned Nainital by landslides on the roads. But the seasons were clearly demarcated and by far the bulk of rain came down in the three-month rainy season

and the remainder in the 'little monsoon': a two-week period of light rain in the early spring. The problem with rainfall used to be too little, too much, or too late, but never out of season. It simply did not rain in the summer months between the little and big monsoons, when nobody dreamt of carrying an umbrella.

Indeed, one of the biggest surprises I had during my first year in Germany was that it could rain at any time of the year: the concept of rainy season did not exist. Most of the rain came down as a drizzle and bouts of heavy rain tended to be short. The trend of climate change was obscured in the natural unpredictability of weather. It is the frequency and severity of weather events that have since convinced most people in Germany about climate change; but in India, climate change was signalled much earlier by the growing unpredictability of rainfall. It appears as if the sharply delineated rainy season has been smeared through the seasons by what meteorologists call 'western disturbances'. This has been a good thing overall because it has led to a greening of India over the past decades that I have been observing in the course of my visits to India that are now solidly documented by satellite imagery. The long and the short of it: people living in India are more likely to have sensed the shift in rainfall patterns as a climate shift, as compared to those living in Europe or the US perceived individual droughts or floods as climate change. This shift in perception occurred in India in the early 2000s in the period when Rajendra took over the helm of IPCC. He could as well have steered IPCC down a path more favourable for the fossil-fuel industry but he chose not to, because he knew, felt, and sensed that the climate was changing and evidence to nail the culprit was unambiguous: history was made.

I have been toying with two other factors that could well have played roles, however subliminal, in shaping Rajendra's conviction. There is also a down-to-earth explanation for the breadth of the spectrum ranging from believers to deniers of climate change within the scientific community in the period when consensus was growing in the 2000s. A lot of otherwise capable scientists just couldn't imagine that the atmosphere was so limited in volume that it could be affected by human intervention. Even today, most people don't have a perception for the quantities involved. However, denizens of the Himalayan foothills experience a strong temperature gradient with altitude that is most noticeable, because it affects one's well-being in winter nights. Internal heating other than radiators was unknown, so at 2000 m altitude one went shivering to bed and was reluctant to get out in the morning. The children who lived in the schools on the mountain tops of Nainital (the boarders as they were called) had to write their final exams with chilblains and chaps by the first week of December, just before schools were closed for the winter. But in Bhimtal, just 500 m lower down, the air was comfortably mild. If such a gradient prevailed in just a 500 m thick layer of air, then surely the atmosphere has a limited volume and we humans, even prior to industrialization, had the power to influence it. This type of knowledge through direct experience gained from sensing the gradient in the course of an hour's bus ride down slope, even if one does not understand the relationship between pressure, density, and heat capacity, primes one's intuition, one's gut feeling, and renders the infinite finite. It is when one realises that the planet is finite does one truly comprehend the meaning of, and need for, sustainability.

There is another, allied, explanation for our sharing the same perspective, and I mean it literally: it was the spectacular view from the school of a broad swathe of the Indo-Gangetic plain stretching to the horizon, beyond the foothills where Bhimtal nestled. Today, because of the smog, one can barely see the adjacent hillside. When I was young,

the air was often so clear that you could distinguish the crops that made up the patchwork quilt of fields on the Terai plains below us: brilliant yellow fields of flowering mustard in the spring, brown fields in the summer and glimpses of the vibrant green monsoon cover revealed through momentarily opened windows in the swirling mists and low clouds around and below us. I distinctly remember seeing the puffs of smoke emanating from the coal-burning steam engine on its way to and from Lucknow. The smoke rising from large bonfires left behind clearly visible plumes that gradually dissipated into the blanket of air. That layer of the atmosphere was merely 2000 m thick, the height of the school over the plains.

Years later, we learned that, unlike visible smoke, invisible CO2 stayed on in the atmosphere. According to Wikipedia, the change in pressure between air at sea level and at 2000 m elevation is 25%, and, of the total number of gas molecules in the atmosphere, 50% are below 5500 m elevation. For a mountain dweller visualizing the atmosphere as an invisible blanket covering all one can see, the higher one climbs, the deeper one has to breathe and the more restricted the atmospheric layer is felt to become. You can actually sense the air thinning in the course of an hour's drive, and since you could see this layer from above, you realised how thick, or rather thin, the layer actually was. Since you could look over a substantial percentage of the atmosphere, it couldn't be that big and must be vulnerable to pollution by human emissions.

Contrast the mountain view with that of a person at sea level, seeing the atmosphere only as a dome above one, stretching from horizon to horizon and upward into the sky seemingly into infinity. The view from the open ocean, where I have spent years of my life, is one of unmitigated vastness without borders. It is easy to imagine that the plume of smoke the ship leaves behind will be diluted beyond recognition in the immensity of the heavens. It seems logical to expect the mountain dweller to accept that CO2 levels are rising, that it is getting warmer, and the climate is indeed changing because the volume of air to dilute the human emissions is finite. The garbage dump has boundaries instead of being limitless.

In summary, intuition, gut-feeling, imagination, or simply belief system, whatever you call it, is likely to be different for people living on a flat plain at the seashore who, all their lives, have only looked at the horizon or up at the sky, and those living on steep hillsides of high mountains who can see snow-covered mountain peaks far above them and sweltering heat far below, and literally visualize the layer of air that makes the difference between pleasantly cool or warm and uncomfortably freezing or hot.

I am not suggesting that actually seeing the view from the top is a prerequisite for understanding climate change, but the view certainly stimulates the limbic system, the part of the brain associated with emotions. Why else do people strive to climb mountains or pay money to get a special view, ideally breathtaking? So, what is going on in the head of the viewer whose breath is being taken? I would call it subliminal imprinting, and if it makes sense, as any grand view would, then so much the better. The iconic photograph of our planet from the moon had a sobering effect on the viewers as to how small and fragile our planet actually is, in particular the thin atmospheric skin. Does it not seem logical that Rajendra's childhood 'view from the top' in Nainital aided him in his search for sustainability but also spirituality throughout his life and his subsequent concern for humanity and our environment in the face of climate change? We are deeply indebted to him for his guidance.

Patchy the speedyman

YOUBA SOKONA

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'had known Patchy for almost 40 years. It was between 1981 and 1982 that both of us joined the newly established network of independent think-tanks and research organizations all working together on a consensus basis to identify and investigate energy and development issues by building up energy planning capabilities in developing countries. This network, COPED, the Cooperative Program on Energy and Development, financially supported by the CEC, the Commission of the European Communities, consisted of eight entities¹ spread across different regions of the North and the South. Patchy was representing TERI, the Tata Energy Research Institute that he had just started from scratch almost alone, while I represented the ENDA - TM, the Environnement et Développement du Tiers Monde based in Dakar in Senegal. I first visited India in 1983 at Patchy's invitation to attend COPED's second meeting, and, unfortunately instead of visiting Delhi and TERI I spent three days at the airport because I had not brought my yellow fever certificate with me. Patchy did all he could to get me out but we both realized that we had to follow the rules. This incident was quickly forgotten because the following week, Patchy and I, together with the whole COPED group, went to Beijing for a third COPED meeting. It was an amazing time for all of us to hear Patchy and Professor Lu Ying Yong of Tinshua University discuss the energy challenges for the two emerging economies. Patchy and I began truly bonding a year later when he invited me to Delhi again, and I discovered the small office that TERI had at that time. No one could have imagined what was to come years later as a result of his vision, ambition, dedication, pragmatism, endurance, and humility.

One in Africa (ENDA-TM, the Environment and Development in Third World in Dakar, Senegal); three in Asia (AIT, the Asian Institute of Technology in Bangkok, Thailand; INET, the Institute of Nuclear Energy Technology in Beijing, China; TERI, the Tata Energy Research Institute in Delhi, India); two in Europe (IEPE, the Institute of Energy Economics and Policy of the University of Grenoble in Grenoble, France; SPRU, the Science Policy Research Unit of University of Sussex in Brighton, United Kingdom); three in Latin America (IDEE/BF, the Institute of Energy Economics of the Bariloche Foundation in Buenos Aires, Argentina; COPPE/URFJ, the Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering of the Federal University of Rio de Janeiro in Rio de Janeiro, Brazil; UNAM, the National Autonomous University of Mexico in Mexico).

I tried to emulate Patchy's vision and goals in African context. We became colleagues and would frequently meet somewhere on the planet at least thrice a year. It was strange for us to see that Patchy never stayed for more than half the time scheduled for the event. He always seemed to be so busy that we nicknamed him SPEEDYMAN. Later, I realized that his focus was on how to build a strong TERI as quickly as possible while remaining connected at the global level.

Patchy was a renowned international leader and an expert on all issues related to human well-being, poverty eradication, energy, and international development. His work addresses some of the biggest challenges of our time: climate change, energy systems, and sustainable development. He has made outstanding contributions to the links between science, engineering, social science, economics and the use of knowledge to inform public policy and decision-making and support practice at different levels.

Patchy and I became friends and allies when we joined the IPCC, the Intergovernmental Panel on Climate Change, as Lead Authors from developing countries. With other colleagues within IPCC, we pushed for agendas on poverty alleviation, sustainable development, equity, and justice. We worked closely together and became brothers when he was elected Chair of IPCC and I was Co-Chair of the IPCC Working Group III on Mitigation. With IPCC work, SPEEDYMAN was transformed into a patient, calm, generous, and unruffled man, open to all kinds of people from different parts of the world and culture. Patchy was always himself—whether with a head of state, head of an international organization, a CEO, or a street kid. He always put the human being first, before the position.

In a couple of years, SPEEDYMAN had succeeded in transforming the small institute that was TERI into one of the largest and best-known energy research groups, applying sustainable development principles in an empire that combined research, knowledge, training, and practice. It was the to-be place for anyone interested in sustainable development when he instituted the annual Delhi Sustainable Development Summit.

Patchy mentored and coached numerous young researchers who are making a major impact in the areas of research and policy. He had a direct, thoughtful approach to guiding researchers under his supervision as he motivated them to raise their game and ambitions in their research. He not only contributed to awareness of the latest research but empowered and energized his colleagues making the research ecosystem richer and better prepared to deal with future challenges.

Patchy was a global player. His work on energy, sustainability, and climate change has had a significant impact globally and influenced academics and policies worldwide. My brother Patchy, rest in peace.

The whole universe is one family: Patchy and his world

ERIK SOLHEIM

President, Green Belt and Road Institute, Former Minister, Environment and International Development of Norway, Former Head, UN Environment

First met R K Pachauri, or Patchy, when he came to Oslo in 2007 to receive the Nobel Peace Prize on behalf of the IPCC, the Intergovernmental Panel on Climate Change. We immediately connected and I was immensely impressed. Patchy was exactly the charismatic, down-to-earth, people-centered global environment leader I had hoped would emerge. As a new minister for Environment of Norway, I was looking for people who could bond with and inspire ordinary citizens in my home country and around the globe. Patchy was my man.

Climate change had long been a bit boring, set out in numerous intricate PowerPoint presentations by well-meaning experts, but with limited popular appeal. It had been simmering in the background of global politics. Patchy brought climate change to the first division, or to the Champions League as we say in Europe. Patchy built on science, but he also created the emotions, the dedication, the energy, and the struggle so desperately needed. Patchy never believed in boring people into action.

The American magazine *Foreign Policy* was spot on: Patchy was "ending the debate over whether climate change matters", it said, selecting him as one of the most influential global thinkers.

The whole world is one family, Patchy appealed in his acceptance speech in our spectacular Oslo townhall. These beautiful words from the Upanishads touched us all. They are a core lesson from one of the oldest and most glorious human civilizations, that on the Indian subcontinent. Patchy was always deeply rooted in his amazing home country, India. At the same time, he wanted to contribute to a shared community for humanity. Patchy was Indian, but a world citizen. He was proudly Indian, but with a mission to unite the world in a common struggle to defeat a major danger to the human civilizations.

Patchy became the global statesman, but deeply rooted in language, religion, food, and traditions of India.

He was a vegetarian of course, merging thousands of years of Hindu tradition with modern environmental thinking around carbon footprints.

It couldn't be otherwise for a man born at 2000 meters in a hill station in the state of Uttarakhand, a place facing the immense beauty of the Himalayas. He was educated as an engineer in Lucknow, in Uttar Pradesh, and Jamalpur, in Bihar, and started his career with the Indian Railways in the holy city of Varanasi. Patchy covered the geography of the north Indian plains and later moved to historic Hyderabad in the south. How could he avoid falling in love with India, being a proud Indian?

Patchy was always a down-to-earth man. He could set out climate change in a way which inspired farmers in Uttar Pradesh, auto workers in Detroit, or nurses in Norway. He believed in a human-centered story of climate change. He knew we environmentalists cannot win without engaging the peoples of the world. May be, he learned this working with the people of the Indian Railways. Railways are about concrete. The men and women in railways are often concrete in their minds, less impressed with lofty presentations than experts, bureaucrats, and activists traveling the world in the service of the good.

From 2002 to 2015, Patchy led the IPCC. He not only led—he was the IPCC. He filled every room he entered, enthused any group he spoke to, got leaders of business and politics to understand climate science. He was the great translator of science, making it intelligible for everyone.

The IPCC was of course not a one-man show. Thousands of scientists contributed to the process, many of them with big egos. It was no little effort for Patchy the peacemaker to bring consensus and a common ground. Here he could build upon a carefully designed process created by his two great predecessors in the Panel, Bert Bolin from Sweden and Bob Watson from the USA.

Patchy was the guarantor of rigorous scientific standards. There could be no shortcuts, ruining the reputation of climate science in a world where big oil still financed climate skeptics ready to attack even the smallest of mistakes. Exxon had worked to get Bob Watson fired.

But Patchy also understood the need for translation. Climate science must be true and scientific, but it must also be presented in a way appealing to the citizens of the world. Fewer intricate PowerPoint presentations, more plain language setting out the effects of climate on human existence.

Patchy emphasized the intimate relationship between climate change and poverty. Poor people and poor nations are likely to be affected by climate change in much more desperate ways than the rich. In his Nobel acceptance speech Patchy quoted the President of the Maldives, a small island developing state, the very existence of which is threatened by the surging temperatures. He spoke with passion on how climate change will hit vulnerable people in Africa.

He focused the climate debate on water, food security, and access to energy. These are causes most central to the life of the forgotten people on earth.

While setting out the challenges emerging from rising temperatures, Patchy was also deeply embedded in solutions. He was a proponent of solar energy long before it became fashionable. He worked on programs of clean energy for the poor.

A particular worry was the melting of the glaciers in the Himalayas. This is possibly the most consequential climate effect. It may bring difficulties to hundreds of millions living along the great Himalayan-sourced rivers like the Ganga.

Patchy made the necessary connections. Climate change is not only a threat to our ecosystems and our livelihoods, it is also a security threat, he underlined. Climate change does not bring wars by itself; wars are always started by humans. But climate change is the background music which may accompany conflicts. It is the great amplifier of wars and disputes.

This is exactly what the Nobel committee recognized by giving him and Al Gore the prize that winter day in Oslo. Environment destruction must be tackled also by the hardcore security community of our world, not just by the softer environmentalists. The Nobel committee had made this point only once before, when it awarded the Kenyan green warrior and tree planter Wangari Mathai.

While it was the IPCC that made Patchy a household name on the global scene, his life's passion was TERI, The Energy and Resources Institute. Patchy led TERI for 34 years and brought it from a small outfit into a first-class institution. With Patchy at the helm, for the first time an Indian non-governmental institution did lead the world. World leaders, big and small, myself included, flocked to Delhi for his World Sustainable Development Summits, normally in February. It became a green mini Davos at a time when the World Economic Forum had yet not put green issues centerstage. In Delhi we could meet leaders and activists from all continents. The Indian prime minister would normally attend. Patchy was the perfect host and a mastermind.

Patchy's lifelong achievements culminated with the Climate deal in Paris in 2015. The fathers and mothers of the Paris accord are many. French foreign minister Laurent Fabius, UN leaders Ban Ki-moon and Christiana Figueres to name but a few. It is still fair to say that without Patchy, there would have been no Paris. He and the IPCC built the scientific case for action. They convinced the world leaders of the need to act. Paris was a fruit of years of planting, watering, and weaning in the garden of scientific climate politics.

It is the destiny of many great people that the fulfillment of their life achievements comes after they have passed away. Wherever Patchy is, I am confident that he is proud and positive on what he is seeing now. He is nodding from above.

There is no serious debate over the need to act. Business in fact is in the driving seat of action and is in most countries acting ahead of politics, not hiding behind. Microsoft has promised to be carbon neutral and to compensate for all emissions in the history of the company. IKEA is a global leader in circular economy. Volkswagen says the debate is over and it will not waste more time on the combustion engine but will go all out electric. *Foreign policy* got it right, just a little early, back in 2009. The debate is over. It is all about action now.

Patchy will also be happy observing that India is providing global leadership. Prime Minister Modi formed the International Solar Alliance with President Macron of France. India has the first all-solar airport in the world in Kerala and the first all-solar rail station in Assam. The huge metro system in Delhi will soon be powered by the sun. Solar energy in India today is the cheapest energy in the world, indeed the cheapest energy anywhere at any time in human history. A new development model is possible for India. The win-win proposition combining ecology and economy.

India is not only leading on the political front. Indian non-governmental organizations such as the Afroz Shah Foundation in Mumbai is pioneering beach clean-ups and global campaigns against the plastic menace. Indian business is stepping up to the challenge, seeing climate change as a double win opportunity. The green shift will bring jobs in India, while improving Mother Earth.

I spoke with Patchy a few days before he died. He was as full of energy as ever, planning for an environment summit in Mexico. Through the Zoom line I could feel his passion, his energy, his intellect and his enormous human warmth. He had enough of all this to fill every room he entered on planet earth.

"Solving the problems facing humanity is my religion and my dharma", he once said. The whole universe is one family.

Dr R K Pachauri: a friend of four decades

JOSEPH STANISLAW

The JAStanislaw Group LLC

In a little restaurant in Alexandria, Virginia, in June of 2010, Patchy and I sit sharing a quiet dinner catching up after a decade since our last in-person meeting. Chosen with care, the restaurant specialized in local, organic foods while boasting an exquisite international wine list. We were drawn together once again ahead of Deloitte's annual energy conference in Washington, DC, the next day. The organizers had titled the event 'Changing the Great Game: Climate, Customers, and Capital', and I asked Patchy to be the keynote speaker to discuss the findings of the most recent report of the IPCC, the Intergovernmental Panel on Climate Change. As the chair of the IPCC, Patchy's message the next day, and that of the IPCC's, resonated with his long-standing belief, and as I later realized, as with the restaurant's menu the night before, that great things can be achieved when marrying the best of global thinking and local solutions. Patchy was at ease addressing this topic to the international audience the next day just as he was at ease in the restaurant in Alexandria that evening. Irrespective of the audience, his message was the same. Local solutions are needed to address global challenges just as global solutions are needed to address local challenges.

Stepping back nearly three decades from our evening in Alexandria in 2010, Patchy and I first met in the late 1970s/early 1980s. We were brought together by a study on the future of global oil supply and demand that I was working on as a part of the energy research group at the University of Cambridge's Cavendish Laboratory. While primarily focused on conventional, commercial energy in treating the developing world, our research group came to the conclusion that we had to recognize that a significant amount of energy demand in this part of the world was being met through non-commercial, and therefore previously unaccounted, means. It became increasingly clear that over time an energy transition would slowly and steadily take hold and that these non-commercial resources would be replaced first by conventional and eventually by new, unconventional, and renewable technologies in the years to come. In making these observations, it became

apparent that we would need to develop different mental models to tackle this problem, and to that end, it was this set of realizations and our conviction in them that brought the two of us together.

These types of studies that were being conducted at Cambridge, by Patchy at TERI in India, and by our colleagues around the world in academia and international organizations, like the RFF, OLADE, the IEA and others, were of a new breed. Simply put, we were thinking about and looking at the world's growing needs and how these would be met. Lest we forget that this was during the 1970s when the entire world learned a valuable lesson about scarcity (and the perception) and the during the oil crisis and, in the aftermath, with the institutional leadership of individuals like Patchy, we were working to fill that void of knowledge. We were at the forefront of what has become a commonplace activity in energy markets today, but at the time we were delving into what was very new terrain.

Sustainability did not really become a popular term until the 1990s, but the principles that underlie the term were the basis and fundamental driver of Patchy's work since I first met him. Then we called it energy, socio-economic development, and the environment. Forming these into a triangle would balance the three together and, ideally, deliver efficient use of resources—the term of art that became sustainable development.

The work Patchy led at TERI challenged the traditional model of energy development, which assumes that growing energy demand must be met by investing in a fleet of centralized, commercial power generators. Instead, Patchy focused on exploring both locally developed and decentralized methods, and globally developing technologies to meet local needs and realities in both underserved communities in India. This work echoed the work of E F Schumacher's philosophy of Small is Beautiful. TERI and Patchy were putting in the hard work to develop appropriate technologies at the appropriate scale that could operate within the local context and meet the energy demand and budgets available for this segment of the population. This focus, Patchy's focus, on technology as a solution to future needs, however trying, was at a critical juncture in thinking about future energy.

Patchy saw clearly the need to think about tomorrow, the challenges the world faces today and how these would evolve going forward. Of all the challenges, Patchy clearly understood that time was the most important and critical resource of all. The transition to more sustainable technologies, energy, and economic development would take time and that the wheels of this transition had to be put in motion sooner rather than later.

Despite this urgency, Patchy also understood that championing this position would require both patience and a bridge. Patience for the world to catch up to this transformative thinking that he and others like him were undertaking. And in addition to patience, Patchy knew that a bridge was needed, a bridge to get from today to tomorrow. In order to be able to pivot and to reposition to a more sustainable future, a bridge needed to be built by challenging the rigid mental models embedded in political and academic thinking, the rigidity of infrastructure, and the rigidity of money flows captured within these networks. Patchy, among many others, patiently built this bridge knowing it would indeed take decades of developing and implementing current and newly evolving technologies in step changes away from the status quo. To build this bridge, he saw the importance of creating new organizations and fostering collaboration among organizations both public and private. Steadily, and with a guiding hand from these forward-thinking institutions, these technologies could, and with some conviction,

would, evolve and be replaced with more efficient and more effective sources and technologies of energy generation that could better address sustainability, equitability, and social justice.

Over nearly four decades, Patchy and I stayed in touch closely, both professionally and as friends. Our method of doing so was always through technology. We literally only met once a decade and despite our careers taking different trajectories, our association spanned the entirety of his career and mine. From my days as an academic at the University of Cambridge, to the International Energy Agency, to co-founding and running Cambridge Energy Research Associates, to launching The JAStanislaw Group where I sat on various boards and took advisory roles with Deloitte and conventional and renewable energy companies alike, like Good Energies Inc., and now at both Brightstar Capital Partners and Wave Equity Partners, private equity firms who are investing to make the world more sustainable and resource efficient, Patchy and I continued to share ideas, to stay inspired, to stay in touch. Though I moved through more institutions with wider leanings over the trajectory of my career, we were always aligned on our motivation to push towards a holistic approach in thinking about energy, the environment, and socio-economic development – sustainability – to meet the growing needs of our planet.

Dr R K Pachauri's – Patchy's – spirit was in his passion, a spirit which lives on with all of us who knew him and in the many and the most who didn't. In his life, his passion radiated and became a driving force for anyone who knew him and, without their knowledge, is a driving force of future generations to realize that the world can meet and transform the challenges they currently face. The challenges which seem insurmountable, but if looked through new lenses, are actually opportunities for making the world a little, even a lot, better.

Patchy: a friend and partner for a sustainable world, a sustainable India and actions on climate change

BJÖRN STIGSON

Former President WBCSD and Professor

Patchy and I first met in connection with the UNCED 1992, the UN Conference on Environment and Development 1992, also called the Earth Summit.

He attended as head of TERI and I was part of a delegation of global business leaders, who, after the summit, established the WBCSD, the World Business Council on

Sustainable Development, an organization I served as its first President until 2011.

This was the beginning of a long-lasting personal friendship as well as of a professional partnership between our two organizations, very much fuelled by a shared common

vision about sustainability and the crucial role of climate change.

During this time Patchy and I developed a strong friendship and partnership both on the personal side and between our respective organizations. We realized that we shared a common vision about sustainability and the crucial role of climate change.

The cooperation between TERI and WBCSD was of great mutual benefit.

It gave WBCSD better access to both the government and the business community in India, a country which I always viewed as a key player in achieving progress toward a sustainable world.

TERI in turn got access to the leading part of global business through the WBCSD, which included CEOs of the largest companies in the world.

An example of the fruitful cooperation was in connection with the WSDS, the World Sustainable Development Summit (WSDS) that Patchy and TERI launched in 2001 in Delhi

My role became to bring global business to the summit. Hence, Patchy and I jointly established a curtain raiser event before the start of the summits that brought global business, Indian government and business, and the science community via TERI together.

One of the results of these curtain-raiser events was the establishment of the TERI Business Council for Sustainable Development that became part of the WBCSD's Regional Network.

My cooperation with Patchy further intensified with his role as chair of the IPCC, the Intergovermental Panel on Climate change.

Since climate change was a key topic for the WBCSD, I had already been in touch with the first chair of IPPC, my fellow countryman, the Swede Bert Bolin.

However, I was met with a lot of mistrust as a business person by the other scientists in the IPPC.

When Patchy was elected chair of the IPPC in 2002, I saw an opportunity to bring science and business together in a more constructive dialogue given that Patchy and I shared a common vision. Patchy was elected in a meeting in Geneva where WBCSD also is based. Patchy had to go straight from the meeting to the airport to catch a flight. I waited outside the meeting building with my car to take him to the airport and I also had a bottle of champagne for us to celebrate his election.

As Patchy and I worked on international matters, we frequently travelled together, giving us more opportunity to spend valuable time with each other.

A peculiar aspect of travelling with patchy, which was subject of many jokes among us, was his physical resemblance to a very prominent international terrorist. Fortunately, thanks to his role at IPCC, Patchy had a UN passport, which greatly helped us to get through security checks.

Patchy had an office in Geneva as chair of the IPCC. This gave us many opportunities to meet for breakfasts, lunches, and dinners. That enhanced our common understanding of how to advance our ambitions for sustainable development and climate change.

I travelled a lot to India during my time at WBCSD. I was very well looked after with contacts and logistics by TERI as our Indian partner organization, for which I was always very grateful.

One occasion I especially remember was when my wife accompanied me and we visited Jaipur on a brief vacation. Here again Patchy greatly assisted in making this a memorable experience for us.

Patchy and I were also advisers to the Chinese government on sustainable development. I remember a special statement made in frustration by Patchy when we compared the development in China and India: "In China everything happens thanks to the government; in India, everything happens outside the government."

I miss very much my contacts with Patchy and the great cooperation we established in spite of our different backgrounds. This also enlightened me about the cultural differences we have to address in creating a sustainable world.

"No man is an island", and I also want to recognize the great contacts that my colleague Marcel Engel and I had with the professional staff of TERI with whom we developed close personal and professional relations over the years.

Warm thanks to you all.

A tribute to Dr R K Pachauri

TERRY TAMMINEN

President, 7th Generation Advisors and former Secretary, California Environmental Protection Agency

(When I started thinking about the many ways I wanted to pay tribute to my late friend 'Patchy', I kept wishing I could say these things to him personally, rather than just writing a statement. So I decided to do just that—write to my dear friend, but make the letter public to share the memories and sentiments with all of you.)

Where does the time go? It's been a very long year since you left us and so much has happened, many things that would warm your heart and way too many things that would cause you grief. To celebrate the good and put the bad in perspective, I wish I could hear your voice again; share a laugh and an 'adult beverage' with you; cry together over the loss of humans and humanity in crushing pandemics, the one called 'covid' and the one called 'climate change'.

The surprises of the past year remind me of the first time I came to your Delhi Sustainable Development Summit and we spent so many pleasant hours together and really got to know one another. I was standing at the seemingly endless line-up of different foods on the lunch buffet and I asked you which ones were not spicy (my palate is way too finicky, I'll admit). You pointed out the ones you thought were the most tasty and said, "Don't worry, you'll love them". I filled my plate and we shared a table to try out the amazing colors, aromas, and tastes. When my tongue exploded from the first bite, you grinned from ear-to-ear and encouraged me to keep going, "You'll get used to it", you said.

Well, guided by you, I did get used to it and came to love Indian food in all its many ingredients and moods. This past year reminds me of that experience, full of shocks to the system, and I wish you were still here to guide us, to provide context and wisdom, and to help us chart a better course for the future.

That too is why I will always be grateful to you. Whether it was for your leadership of the IPCC, especially in the early days of building the scientific case of human impacts on our shared climate, against the growing chorus of the denial industry; your indefatigable

travel to every continent to speak at conferences and to leaders in government and business, an Indian Pied Piper who was followed by a rapidly growing choir of the newly 'converted'; or giving strength and encouragement to NGOs to help them carry on the fight to transition our economy to one that is sustainable for generations to come.

Sad as I have been to lose your presence, Patchy, I do want you to know that your influence and accomplishments have built a solid foundation worldwide for the rest of us to continue your great work. We will win this battle to restore our planet; we will create a world where everyone is lifted up and empowered, emboldened; we will remember to laugh along the way and dip naan into spicy sauces around shared tables. And I will always think of you as waiting for my call or email, probably in the transit lounge of some far-flung airport, ready to give me advice, encouragement, scolding, a story, or to volunteer for yet another thankless task in furtherance of your lifelong mission—helping people live better lives, even though most will never know what you did for them.

Thank you, my friend,



Much love TT

A tribute to Dr R K Pachauri

HIS EXCELLENCY ANOTE TONG

President of Kiribati (2003–2016)

The global community currently faces the greatest challenges from three major fronts. First, the COVID 19 pandemic, which currently rages worldwide and seems to be under and then out of control in several countries. New variants keep emerging to nullify or question the effectiveness of measures to contain it. But thankfully the global community is united in its commitment to addressing it. Second, we have, for the first time in decades and since the Second World War, the real threat of a major conflict between superpowers with nuclear capability several times the capacity to destroy human civilization. But hopefully the leaders who have the capacity to decide whether or not to wreak the destruction of humanity will realize that there is a no-win for anyone in such a conflict. Third, climate change is a threat that escapes attention because of its ostensibly innocuous snail's pace of destruction, and the global community has been and continues to remain divided on how to address it. In his well-known documentary film, 'The Inconvenient Truth', a former vice president of USA, Al Gore, clearly demonstrates the conflict of interests involved and our own ambivalence over the remedies needed to deal with climate change. There is also a very clear division and even outright opposition to the scientific revelations which the IPCC, the Intergovernmental Panel on Climate Change, began to unravel in its series of Assessment Reports I, II and III. The fossil fuel industry, which perceived these reports as an attack on its source of wealth and power, was obsessively determined to attack and invalidate the science on climate change being generated by the IPCC.

So, when I assumed office in 2003 after the release of the IPCC's AR III, there was still the ongoing controversy over the validity of the IPCC reports, which continued to be vigorously challenged by the fossil fuel industry. But after reading the summary of that report, I realized that sea-level rise was a serious concern for countries like mine, Kiribati, and similarly vulnerable countries, several of which are in the Pacific region. So, in my first statement at the United Nations General Assembly in 2004, I began my advocacy by highlighting the human dimension and calling for urgent action on climate change. Every other leader was talking about terrorism and the usual international

rhetoric, so I felt somewhat isolated and thought that perhaps I was making a fool of myself. Exactly the kind of sentiments the fossil fuel industry wanted anyone peddling climate science to feel. Fortunately for me other countries, mostly similarly vulnerable ones, began to join the call for action on climate change, a campaign which from then on began to gather momentum. Civil society groups also began to take up action, no doubt realizing that the needed leadership at national political level in several countries may have been compromised due to what has come to be defined as regulatory capture. But all of this was happening against the background of the ongoing scientific controversy on whether or not climate change was indeed human induced.

But of course by 2007 with the release of the IPCC IV Assessment Report under the chairmanship of Dr R K Pachauri, for which he deservedly received the Nobel Peace Prize on behalf of the team he led, much of the scientific controversy had begun to be resolved, that climate change was indeed human induced. So in 2008 when at the invitation of the New Zealand Prime Minister Helen Clark, I joined World Environment Day celebrations in New Zealand I met Dr Pachauri for the first time, along with Mr Achim Steiner, then head of UNEP, the United Nations Environment Programme in Nairobi, Kenya. As I joined these two eminent personalities on the subject of climate change, I felt somewhat intimidated and I remember asking Helen Clark, "Helen, what do I talk about?", to which she replied simply, "Just tell your story". And so began my global advocacy telling my story in the series of talks starting in Auckland, Wellington, and Christchurch alongside these international climate experts. But the one incident I recall very distinctly to this day was our talk at Victoria University, Wellington, when a self-proclaimed climate science expert during the Q & A session challenged the validity of the IPCC findings. In response Dr Pachauri, with very firm authority, cited the relevant work included in the report which unequivocally concluded that climate change was definitely human induced. End of debate.

Because of its dire implications for our people, I had always been passionate, perhaps even somewhat obsessive, in highlighting the human dimensions of climate change and that must have come through during our session at that same talk in Wellington. Straight after the session both Dr Pachauri and Mr Steiner came to me to say how powerful my presentation was and asked if I would be happy to join them in future talks. And so from 2009 to 2015 I began my annual visits to speak at TERI, The Energy and Resources Institute, New Delhi, which Dr Pachauri headed from 1982 as chief executive until 2016, when he left as its vice chairman. During the 2009 UNFCCC, the United Nations Framework Convention on Climate Change Conference of the Parties (COP) meeting in Copenhagen, Denmark, India, through its minister for environment, deliberately went out of its way to derail the negotiations and even boasted about his attempts to sabotage the process at a subsequent national meeting of the Indian Parliament. So when I came to TERI at the invitation of Dr Pachauri in 2010, I came with a prepared statement ready to blast the Indian government for what I regarded as its inconsiderate stance on climate change. However, when the Indian Prime Minister Dr Manmohan Singh opened the session, he said that India was prepared to play its part in addressing climate change, clearly an entirely different position from that expressed at the Copenhagen COP meeting the previous year. Consequently, I had to abandon my prepared statement and improvise on the floor but extremely happy to have heard the revised Indian position.

Of course apart from my annual visits to TERI, I continued to meet Dr Pachauri during my terms in office and since retiring from politics in 2016 at conferences on climate

change in different parts of the world and of course we invariably discussed how we could more effectively communicate the message that climate change was real, urgent, and cataclysmic. I also recall the one occasion when he shared with me the harassment which he believed he was being subjected to by the fossil fuel industry, in an attempt to discredit him personally. An experience I can easily relate to when following my call for a global moratorium on the opening of new coal mines in 2012, I received a letter from one of the biggest coal mining corporations telling me that regardless of whatever I say coal will always be the energy source of the future. I was advised against responding but I clearly understood that I was being warned. In his documentary film 'The Merchants of Doubt', which he released in August 2014, Robert Kenner clearly demonstrated the extent of trickery and ruthlessness to which the fossil fuel industry was prepared to go to in order to protect its interests.

I have always believed that the IPCC IV Assessment Report under Dr Pachauri's leadership was the most critical turning point in resolving the raging controversy on the science of climate change and of course Dr Pachauri's leadership in standing firmly by the IPCC's findings against the continuous onslaught of disinformation and political manipulations by the fossil fuel industry proved effective. Personally, my experiences with Dr Pachauri have always provided me with the inspiration and confidence to believe in the work that I have been doing for the past two decades. And it is indeed a great honour for me to share my stories here as a tribute to his enduring legacy.

Patchy and the IPCC

KEVIN E TRENBERTH

Distinguished Scholar, National Center for Atmospheric Research (NCAR)

was privileged to have had a number of personal exchanges with Patchy, as he was known to many colleagues. The last was in August 2019. My connections were mostly related to IPCC, the Intergovernmental Panel on Climate Change. Dr Pachauri took over as chair of the IPCC in April 2002 and remained in that position until 2015. I was involved at a lower level throughout but interacted with him on several occasions.

The role of the IPCC is to provide policy-relevant but not policy-prescriptive scientific advice about climate change, its environmental and socio-economic impacts, and possible response options to policymakers and the general public. IPCC scientists, with all kinds of value systems, ethnic backgrounds, and from different countries, gather together to produce the best consensus description of what they jointly understand, and with appropriate statements about confidence and uncertainty. The strength of the IPCC reports is not just the solid scientific credentials but also the open process by which those are created.

After the Bangkok meeting of the IPCC in 2007, Patchy began to become an advocate for actions to address climate change. As an advocate, he was supposed to take off his IPCC hat, but this was no doubt difficult. He was walking a fine line and sometimes he no doubt crossed it, leading to various kinds of criticism. In particular, after about 2015, he suffered a lot from criticism aimed at the IPCC and him personally. I was not surprised by the attacks, because the climate change deniers and vested interests undoubtedly had it in for him. In the following account, I outline some of my own involvement in the IPCC and climate change, and how they led to all sorts of criticism. The attacks were perhaps a proof that he was effective.

The IPCC and my role in it

The Intergovernmental Panel on Climate Change was initiated in 1988. Major assessments were made in 1990, 1995, 2001, 2007, and 2013/14 and are referred to as the First, Second, and Third Assessment Reports (FAR, SAR, and TAR) and as AR4 and AR5, respectively. My involvement was mainly in Working Group I (WG I), which deals with how the

climate has changed and the possible causes, and it goes on to make projections for the future. WG II deals with the impacts of climate change, vulnerability, and options for adapting to such changes, and WG III deals with options for mitigating the adverse impacts of climate change and slowing it down, including possible policy options. Patchy was in charge of the whole lot for AR4 and AR5. A major strength of the IPCC process has been the intergovernmental process, through reviews and then approval of the Summary for Policymakers on a word-by-word basis, which provides ownership, but is much more political.

I was recruited as the Convening Lead Author of Chapter 1 of SAR, which was published in 1995. Chapter 1 had three nominal authors; the others were Sir John Houghton and G Meira Filho, who were the co-chairs of the whole Working Group and did not contribute much. This chapter served to introduce the new assessment and the subject, and the report as a whole was the first to make a strong statement about climate change being caused by humans. The final report had to be approved by the intergovernmental meeting in Madrid in 1995. This was set up as a three-day meeting and a news conference was set for 7 p.m. on the final day. But the wrangling over language became contentious. Sir John Houghton ran the meeting with some 96 or so government delegates. But several non-governmental organizations also attended and were lobbying for the language to suit their purposes. The main problems were the groups supporting the OPEC countries, led by Saudi Arabia, which strongly opposed the language proposed by scientists. The role of the 40 scientists, such as myself, representing the hundreds of scientists who had produced the report, was to make sure what was said matched the science. How it was said was up to the delegates. At one point I was very upset and asked if the authors could withdraw from the report as the language was becoming too far removed by the lobbying. This audacious action actually caused a minor shock and helped bring the meeting back to its goal.

The United Nations operating rules called for unanimous agreement. Nonetheless, two parts of the report could not meet this standard, and it was finally agreed to add footnotes to that effect. It was only well after the meeting was over when Saudi Arabia and Kuwait found that they were going to be named in the footnote that suddenly their objections vanished, along with the footnotes. Credit Sir John and Bert Bolin for this diplomatic coupe. However, the meeting went on and on. On the final day, the 7 p.m. time for the news conference came and went. At about 10 p.m. the translators quit. The rules require simultaneous translation into six languages. Some delegations were dependent on this and several had to quit. The meeting was finally wrapped up about 2 a.m. the next day. There never was a news conference. Thus was born the famous statement: "The balance of evidence suggests a discernible human influence on global climate." Major debates occurred for hours over every word in this sentence.

During the course of the debate, some aspects of the report got less emphasis, some got more, and words were changed, but the summary was all based on the main report. Nevertheless, it was desirable to propagate the changes backward for traceability. This was left to the Convening Lead Authors to do, without editorial oversight. Although nothing improper was done, the flawed procedure led to challenges from skeptics who claimed otherwise. The ramifications reverberated for months, led by skeptics who focused on discrediting the process and the people involved rather than refuting the actual science. Of course, this also happened later to Patchy.

For the 2001 IPCC report, I was recruited as a Lead Author (LA), this time for the chapter on climate processes. The Coordinating Lead Author (CLA) was Thomas Stocker, and he and the other LAs on this chapter were rookies. My experience was valuable, as one member of this chapter, Richard Lindzen, was a well-known skeptic, who had excellent scientific credentials, the best of any denier or skeptic. Lindzen was generally not helpful, and he failed to add anything to the stratospheric section where he was supposedly an expert on dynamics. Thomas learned a great deal and went on to become the Co-Chair of WG I for the 2013 IPCC report. I was one of the 40 or so scientists invited to the 2001 intergovernmental meeting in Shanghai, China, that eventually approved the report and finalized the Summary for Policymakers.

For AR 4, the Bush Administration decided to host WG I, which had previously been hosted by the United Kingdom and led by Sir John Houghton, who has now retired. Previously the United States had hosted WG II. A search was set in place by the State Department for a scientist to head the IPCC WG I. I was one of the scientists considered (Michael Prather and Richard Lindzen were also considered), and indeed I had qualifications second to none, but I learned from a State Department employee that I was ruled out because I had published papers on climate change. Instead, Susan Solomon was selected, in part because she had made no public statements about climate change. Dr Pachauri took over as chair of all WGs.

The summer of 2004 was when four hurricanes made landfall in Florida, and the question was whether there was a human global warming role in the activity and thus the damage. To me it was obvious that there was. I had worked extensively on climate change, and had connected the increases in sea surface temperatures, which were clearly and demonstrably linked to global warming, to increases in water vapor in the atmosphere. Accordingly, all storms reach out and gather in the available water vapor, which fuels the storm, and it rains harder. I reasoned that this should also apply to hurricanes.

None of this was reflected in the official NOAA statements on hurricanes and instead the extra activity was all attributed to natural variability. In a tele-news conference on the topic I cautiously suggested that yes, global warming was undoubtedly playing some role. This led to a major outcry from Chris Landsea, who publicly 'resigned' from the IPCC, citing my comments as being biased. I had previously asked Landsea to provide a page of material as a contributing author to our IPCC chapter, and he had nothing to resign from. Landsea's comments had no basis and were strongly criticized by leaders in the IPCC.

I published my views in a Perspective in *Science* magazine in June 2005 which preceded the record-breaking 2005 hurricane season in which Katrina caused all kinds of devastation in New Orleans. Two other supporting studies came out shortly thereafter. In July 2007 I published an article on this topic in *Scientific American*.

The final AR 4 IPCC WG I intergovernmental meeting in January 2007 was held in the UNESCO building in Paris, and more than any previous time, this was a major media event. My colleague, Phil Jones, was quoted in the *Guardian* newspaper upon being asked if he was feeling a sense of history at the completion of the report. His response, "Mainly what I am feeling is knackered", seems about right.

It was particularly gratifying when IPCC was awarded the 2007 Nobel Peace Prize, along with Al Gore, for the work over the 20 years. I believe I was the only scientist from

WG I who participated in the 1995, 2001, and 2007 intergovernmental meetings, and I was among the fewer than a handful who had been a CLA on two occasions. Dr Pachauri played a key role in pulling all of the WG reports together in special synthesis volumes. At the time I thought that the IPCC should declare success and change its way of doing things . However, when AR 5 was scheduled for 2013/14, with Thomas Stocker as the new Co-Chair of WG I, I signed on as a Review Editor.

The term 'climategate' refers to emails and personal information about individuals, including me, that were illegally hacked from University of East Anglia in the UK and used to distort the activities of climate scientists with a deliberate goal of undermining international negotiations going into the 15th meeting of the UNFCCC Conference of the Parties in Copenhagen in December 2009.

The hacked material published related especially to the work of the Climatic Research Unit (CRU). Since I was a co-CLA with Phil Jones from CRU on Chapter 3 of the AR 4 IPCC report, over 300 of the hacked emails involved me. There was selective publication of some stolen emails taken out of context and distorted. The IPCC did not handle them well by defending its processes. Instead, malicious attacks were launched on many of us who participated in the IPCC report. In my case, one cherry-picked email quote went viral: "The fact is that we can't account for the lack of warming at the moment and it is a travesty that we can't." This particular quote stems from a paper I had published in 2009 bemoaning our inability to effectively monitor the energy flows associated with short-term climate variability. Later, as data improved, this anomaly was resolved. As another example, in a hacked email from Phil Jones, he wrote: "I can't see either of these papers being in the next IPCC report. Kevin and I will keep them out somehow—even if we have to redefine what the peer-review literature is!" AR 4 was the first time Jones was on the writing team of an IPCC assessment. The comment was naïve and sent before the lead author meetings were held. As a veteran of three previous IPCC assessments, I was well aware that we do not keep any papers out, and none were kept out.

There were six major investigations of alleged misconduct. Aside from minor violations of the Freedom of Information Act in the UK, the charges were found to be entirely without merit. None of the attacks changed the science or the conclusions with regard to the climate change threats.

Closing remarks

In March 2017 I made a short video for Patchy and a project he was active in. He had written to me: "I think it is important for the youth of the world to hear the voices of a few select scientists of renown like you, so that they realize the gravity of impacts of climate change that are projected to occur without additional mitigation, and what needs to be done by each citizen of Planet Earth by way of adaptation and mitigation. Essentially, if we could mobilize the youth of the world to become part of the solution rather than remaining a part of the problem, we would perhaps go a long way." And later: "I have just viewed what you have provided. This is absolutely wonderful. Just what would inspire youth to act! Thank you so much indeed!" Thank you, Patchy.

How a person becomes the symbol of a cause

DANILO TÜRK

Former President of the Republic of Slovenia, currently President of the World Leadership Alliance - Club de Madrid

It is interesting to follow the 'long flow' of international action for protection of the environment and addressing the problems caused by global warming. More than any other area of international endeavour, this domain is marked by remarkable personalities—one of the most distinguished among them being R K Pachauri.

I was a student at the time of the Stockholm Conference (1972) when Indira Gandhi, the prime minister of India, made a forceful plea for environment and development. Subsequently I followed the work of Maurice Strong, or 'Mr Environment' as he was called at the UN and in civil-society organizations. Gro Harlem Brundtland was, understandably, associated with the concept of 'sustainable development in the early 1980s.

And then came Rajendra Kumar Pachauri, whose work was identified with the UN IPCC, the Intergovernmental Panel on Climate Change. The problem of global warming was insufficiently recognized. It was Dr Pachauri's activist talent and leadership that made a difference. IPCC became the locus of global activity and the symbol of concern over global warming. The Nobel Peace Prize of 2007 put Dr Pachauri at the centre of global public attention. This was the turning point. Although those of us who follow the work of the UN were already aware of the IPCC, it took the Nobel Peace Prize to make the drama of climate change a matter of general knowledge and universal concern. The systematic and detailed work of the IPCC gave the warning about global warming special credibility and durability.

In 2007 I was a candidate for the post of the President of Slovenia. Having returned from New York in 2005, where I had served as UN Assistant Secretary General for Political Affairs, I expected that problems of global warming will be among the important issues of the electoral campaign. I couldn't have been more wrong. Slovenia was still under the spell of its then recent joining of the European Union (2004) and the Eurozone (2007),

and the future looked bright. There was an illusion that the EU will somehow find ways to ensure solutions for all the problems of the future. It seems that this was the sentiment in many other European countries as well.

So, I had to adjust my campaign. I was joined by Professor Lučka Kajfež Bogataj, member of the IPCC from Slovenia, together with whom I tried to influence the public opinion to take the problems of climate change and its possible consequences for Slovenia more seriously. It was not easy to make an impact—a complacent citizenry doesn't like bad news.

As president, I continued to plead for urgent action to reduce the emissions of greenhouse gases and to change our practices of energy generation and transport — with only very limited effect. I also took part in a number of international meetings. At a conference on protection of forests and climate change that took place in New Delhi in early 2010, I met, for the first time, Dr Pachauri in person. I was profoundly impressed by his determination and persuasive arguments. As the conference was in India, the participants were aware that for India the problem was particularly difficult. In a vast and populous country that has to devise its policies around the paramount priority of reduction of poverty, questions such as reducing the emissions of greenhouse gases cannot easily gain the needed attention. Policy-making is not a matter of simple choices but of complex calculation and careful decisions.

It is in these kinds of situation that the power of personality matters the most. Dr Pachauri came across as a person who understands the painful trade-offs, the needed technological advances and financial instruments as well as the need to move the global discussion ahead. All these ingredients have to be put into a coherent mix. It is only now, more than a year after Dr Pachauri's passing away, that the world is coming closer to the needed reorientation of actual policies. I hope that the forthcoming COP 26 in Glasgow will make this happen. If it does, we shall all have to remember the contribution of Dr Pachauri.

A chance encounter

PARAJ TYLE

EA to CEO, Allianz Real Estate & Founder, Tyle Family Foundation

The universe works in strange ways. My decade-long association with Dr Pachauri started with a chance meeting at Vienna airport. It was my father who recognized him at first and struck up a conversation. Uncle, as I came to call him, was his complete enigmatic self even after his red-eye from Delhi to Vienna. While we did not have a lot of time to converse at the airport, I was drawn by his simplicity, humility, and drive. It was a truly inspiring encounter that motivated me to build on that initial conversation.

Through the years, Uncle always made it a point to have a meal with me despite his hectic travel schedule—whether it was San Francisco, New York, Delhi, or wherever we happened to overlap. He loved learning about what I was doing. Even though my work could not have been more different from his, he had a knack for picking out the human aspect. As a youngster starting a career, I could always depend on Uncle for advice, whether on how to handle a complex situation at work or in personal life. I remember Uncle pushed me to go into business and finance back when I used to work in technology, saying that he felt I could really make a difference there. He encouraged me to go to business school at Yale. Knowing how much we cared about the cause of literacy, Uncle encouraged my brother and me to build on our family foundation. His advice changed my life in ways I could have never imagined.

In all my interactions with Uncle, it was clear that he was an unwavering devout of three things: the planet, people (especially developing the youth), and pakwaan (cuisine). The world is aware of his commitment to the planet, climate change, and the future of our civilization, but it was really amazing how he inspired individuals including myself to act. No action was too small or too big when it was for the good of the planet. Likewise, when it came to imparting to the next generation knowledge and the will to act, I am sure this drove him to really open up to me and my friends. But what always brought a smile on his face was good food. He was of course a fan of the IIC in Delhi and took me there numerous times to try out their fantastic dishes. In other cities where we used to meet, however, it became a fun exercise to try various restaurants together. I remember

he became particularly fond of a quaint family-run Italian restaurant, Il Fornaio, in Palo Alto, California.

I last saw Uncle in January 2020, and never suspected that it would be the last time. While one could see his health had declined, his spirit was still strong. A month later, the world lost a great statesman, a leader, and a visionary. I lost a great influence in my life, a mentor, and a friend. I will never forget his zeal for life. I end my short tribute to him as I did all our meetings, touching his feet and seeking his blessings.

A true climate warrior

FELIX VON GEYER

Sustainable Development, Climate Change and Carbon Market Researcher, Analyst and Content Producer at neworator.com

The first met Dr Rajendra Pachauri in a smoky basement café at the United Nations in New York. Later in our correspondence he invited me to call him Patchy.

Earlier that summer he had presided over the release of the IPCC's 4th Assessment Report that I had reported for *Platts Emissions Daily*.

It was September 2007 and Secretary-General Ban Ki-moon had called the first-ever UN climate summit ahead of the UN General Assembly before the Bali UNFCCC to concentrate world leaders' attention to implement the science-based targets of 25%–40% reduction in emissions below the 1990 levels by 2020 to have a 50/50 chance of averting serious climate change.

Standing face to face in the Vienna Café I said to Patchy that the actuality of climate change seemed to be far in advance of the IPCC's projected science.

His reply was measured and insightful.

"The IPCC is by nature a conservative organization. So, when we say that we are ninety-five percent certain that something is the case, the world's governments sit up and take notice. But you're right", he added, "the wildcard scenarios are likely far more accurate."

We would subsequently run into each other at various UN conferences, the Clinton Global Initiative, and talk.

I remember going into a press conference at the 2009 Copenhagen COP 15 where he sat with Gro Harlem Brundtland, whose 1989 Brundtland Commission had framed both the definition and the three pillars of sustainable development, and Senator Tim Wirth, who negotiated the 1997 Kyoto Protocol for the Clinton administration.

"Well, fancy seeing you all here; it doesn't seem that long since we last saw each other," I summarily declared as I entered.

Patchy looked up and smiled. Slowly, thoughtfully, he replied, "Indeed, it's a small world. That's why we're trying to preserve it."

After the 2011 COP 17 in Durban, personal circumstances prevented me from attending the UNFCCC COPs until COP 25 Chile Madrid in 2019 prior to the COVID pandemic. My last physical memory of Patchy was sharing a despairing laughter over a glass of red wine in Durban against the ongoing failure of the world's negotiators hiding behind vicarious and precarious positions.

Once he left the IPCC, we would Skype and swap ideas on what would become the POP Movement to mobilize the world's youth to achieve climate security and develop conferences. I was scheduled to meet up with Patchy at the second World Sustainable Development Forum in Durango in 2020.

Just weeks before the conference, it was with great sadness, and confusion, that I learned of Patchy's passing.

I so wanted to share with him my idea for a global cap, that under Article 6 that negotiators at Glasgow COP 26 would agree to cap the carbon content versus the energy content of fuel as it comes to market in keeping with science-based targets and to develop subsequent carbon offset mechanisms and International Transferable Mitigation Outcomes through the Warsaw International Mechanism and REDD+.

While that conversation would now never take place, the shared kindred spirit we had developed propelled me to make that journey to Durango. The love that was shared in his memory and honour in this small Mexican town was a special moment in my life.

In the fifteen or so Coronavirus months since WDSD II, it is poignant that the same forces that tried to discredit the climate science put forward under Patchy's leadership such as the Climate Gate ahead of Copenhagen, besmirch his personal reputation, and now mobilize against the epidemiological reality of COVID 19 and its variants through anti-masking, anti-vax movements, not to mention the outcome of democratic elections, should have taken root.

This era that requires a new energy security both needs and misses your calm voice of reason. May you rest in peace while we continue the work you have shared with us.

A Tribute to Patchy from the Arctic

ARNE WALTHER

Founding Secretary General of the International Energy Forum and former Ambassador of Norway to India

y tribute to Patchy comes from the Arctic, from Norway, where sustainable development is in our DNA, where global warming and sustainable development are urgent challenges we want to address, and thus, from one of many places where Patchy is a household name for polity and public. It was not just the respected and distinguished scientist and economist whom we welcomed to Norway in 2007 to receive the Nobel Peace Prize on behalf of the IPCC, Patchy was also a dear friend of Norway. We welcomed him as one of our own.

Patchy was one of those rare persons that you connect to immediately and who stays with you in mind and friendship for life. He was a person who really did make a political difference both in the moment and beyond. His quest for sustainability was global and long term, transcending national borders and generations. Patchy, TERI, the house he built, and the IPCC, the international body he headed, were birds of a feather enjoying, indeed, global recognition.

It was my good fortune to meet Patchy in 1995 very early on in my stint as Norway's Ambassador to India. I had arrived with a fair amount of sustainable development already in my blood, having served as International Affairs Adviser for the former Norwegian Prime Minister Gro Harlem Brundtland, who had headed the UN Commission on Environment and Development and produced the milestone report *Our Common Future*. Patchy then gave me a powerful add-on 'booster'. TERI under his vision and leadership became an important cooperation partner for Norway.

Interacting with Patchy one could not but be impressed and inspired by his vision and the road map to implement it. There was so much to learn from him about the twists and turns of sustainable development from a developing country's perspective and not least an Indian one, both grassroots and official. Our personal friendship and professional contact were to continue for a quarter of a century—for me wearing ever-changing hats.

Having returned to the foreign ministry in Oslo as Director General for Trade, Energy, Marine Resources and the Environment, I participated in TERI's first Delhi (later World) Sustainable Development Summit. The annual WSDS, the World Sustainable Development Summit, has continued as a key meeting place and 'must do' for political leaders and the whole range of stakeholders from grass roots up to mobilize action for sustainable development. I for one have made it a point to return to the WSDS year after year from various positions abroad.

Patchy and I again joined hands, when I was Secretary General of the IEF, the International Energy Forum headquartered in Riyadh, to promote global energy dialogue at the political level of ministers. This time to sign a memorandum of understanding between TERI and the IEF in the presence of the then Petroleum Minister Mani Shankar Aiyar. Our objective was to further highlight the importance of energy and environment in holistic approaches to global sustainable development.

In national and international positions from Oslo and New Delhi, Vienna and Paris to Riyadh and Tokyo, it was always a high-point for me to be visited by the globe-trotting Patchy, who was at home and had friends everywhere. His global outreach among all stakeholders and movers of sustainable development was second to none. The list of former presidents and prime ministers, of acting ministers, academics, and activists that he could bring to the annual WSDS was formidable.

Inspired by Patchy and with many fond memories, I am proud to still be part of the TERI family as a Distinguished Fellow and TERI's Resident Representative in Oslo. As a member of the International Steering Committee of the WSDS, my thoughts often flow to Patchy and the difference his life endeavour continues to make as we now prepare for yet another successful WSDS in New Delhi in 2022.

Honor the memory of my mentor, Dr Pachauri

TIAN WEN

POP Youth Mentor

nyone who knows Dr Pachauri must feel real grief at the loss of a giant. I am deeply saddened by the devastating news that Dr Pachauri passed away, although I had worked with him for only a year and met him in person a few times while he was on business in China. Brief as our acquaintance was, working with Dr Pachauri has left me an enduring legacy from which I will benefit. He has become a role model for me because of his modesty and humility, his respect for people, his wealth of knowledge, and his complete dedication to the cause of tackling global climate change. Whenever I face challenges or lack courage, I will always think of Dr Pachauri's expectations of me, and what he would do to handle tough situations.

I am very lucky to have had the chance to work with such a great and wise man as Dr Pachauri at the very beginning of my career. A Nobel laureate, he had offered me, a rookie in the field, tremendous and invaluable help. For example, launching the Protect Our Planet Movement in China was not an easy task for me. Despite full support from Chairman Zhang Yue of the BROAD Group, we still found it extremely challenging. With many things to consider and many decisions to make, we basically started from scratch. However, it was the first time when I truly felt that I was treated as an equal at work. Although I was no more than a recent graduate student, Dr Pachauri, a top-notch expert with great achievements in the field, still gave my suggestions careful thought. As a supportive mentor, he respected my decisions and had enormous faith in me. He believed that I could make tremendous achievements, and he would always encourage me to give it a try even when he was in doubt. Besides, Dr Pachauri would also provide detailed explanations to me when I made errors in my work. It is the respect and trust, I believe, that make people follow him, love him, and respect him.

Not only was Dr Pachauri an amazing mentor at work, but he was also a person who genuinely cared about other people. When I attended forums and summits with him, he would always ask me if I had my meals on time rather than only focus on my progress

at work. The last time I saw him, he still insisted on attending all the meetings in a wheelchair despite his deteriorating health, because, as he said, he must not disappoint guests who came for him. I think it was his strong beliefs in tackling climate change and his willingness to give up everything to fight for it that made him a man who treated each moment of his life with passion and respect.

If you ask what I remember most about Dr Pachauri, I will answer that my memories of him are related not only to work. The first memory that comes to my mind is of us riding in a car with our guests: Dr Pachauri found that one of them spoke Spanish, so he struck up a conversation with the guest in Spanish. It was such a happy conversation that both of them burst into singing their favorite Spanish song. Although I can no longer remember the name or the tune of the song, the friendliness and the warm feeling are still deep in my heart, and the cheerful smiles on their faces still linger in my mind. How I wish he was always as happy and healthy as when he was singing and laughing at that moment!

I had email exchanges and phone conversations with Dr Pachauri about a month before I heard the news of his death. Back then, his voice was firm and sonorous. Dr Ash Pachauri once told me that his father had never stopped working. A lot of people have asked Dr Pachauri why he worked so hard and exerted himself to the utmost at his age: Dr Pachauri answered the question again and again by saying that it was because he hoped that our children could live on the planet without being harmed by pollution and climate change. However, the world just got a little darker when he passed away. May his last wish be honored and may he rest in peace.

Dr R K Pachauri's legacy

WILLIAM WILSON

Barrister, www.COP26andbeyond.com

did not know Dr R K Pachauri personally, but I had one exchange of correspondence with him that has stayed in my mind. Some years ago, I was preparing a talk on climate change, and struggling to find the right way to illustrate the key points. Then I found the slides from a talk given by Dr Pachauri. Not surprisingly, he put everything completely clearly, much better than I could hope to do. In exasperation with my own efforts, I sent him an email and asked his permission to use three or four of his slides to make the point, never seriously expecting a reply. By return I received his response, a model of courtesy and friendly cooperation. Of course I could use his slides to make the point, most welcome. I have noticed sometimes that the most distinguished people in a particular field retain this 'willingness to be bothered'.

I was at one point actively involved with issues concerning the legal framework and regulation of carbon capture and storage. I was invited to be a Reviewer for the IPCC Special Report on Carbon Capture and Storage published in 2005, which involved reading some chapters, making comments, and asking questions: in all, a very small contribution. What it showed me was the scale of effort that goes into producing IPCC reports, the programme of work by Contributing Lead Authors, Lead Authors, Contributing Authors, Review Editors, and a cloud of Reviewers from countries around the world.

It is this carefully constructed and broad-based international scientific consensus that gives the IPCC reports their enormous authority. They do not claim to be infallible, but they have proved to carry sufficient weight to brush aside partisan attacks on climate science, and still to be asking urgent scientific questions to which governments around the world must now respond.

Dr Pachauri was leading that process and that organization. It was said of his work that, "Under his leadership the IPCC was awarded the Nobel Peace Prize in 2007 and delivered the Fifth Assessment Report, the scientific foundation of the Paris Agreement."

Whatever else you do in your life, these are noble achievements. This science is the means of diagnosing the climate change crisis, and it is surely critical to the production of any cure.

I feel that the job of those of us who are not climate scientists is to try to hold the door open to let the science through, into the fields of law, policy, economics, engineering, and the rest. Which touches on Dr Pachauri's other great insight, of the need to inspire, encourage, support, and engage young people. As he commented,

"What do we need? In order to ensure that governments have the motivation, the ambition and the pressure to make commitments that would really ensure that the impacts of climate change in the future and the risks associated with them are minimized, and to a large extent eliminated beyond a certain period, we need actions at the grassroots level. And to bring about that action at the grassroots, what better section of society than the youth of the world? There are 1.8 billion youth between the ages of 10 and 24, and their future is at stake."

The truth of this insight is all about us. It can be seen in the force of the POP, the Protect Our Planet Movement that Dr Pachauri founded. He was surely right to have full confidence in the bravery and abilities of the members of the next generation, who time after time are showing themselves fully capable of achieving far more than anyone could reasonably expect for the protection of the climate and biodiversity and the environment.

Just in the last year, I watched in some amazement as 330 young climate activists from 142 countries convened the MOCK COP in October 2020, insisting that the climate demands that they debated so seriously should be formulated as a Treaty, and securing the attendance of Alok Sharma, President of COP 26, at their opening ceremony, where he made a remarkable speech explaining exactly how their informed activism helped him and other governments to achieve more ambitious results. I have listened to teenage activists comparing notes on how to prepare most effectively for meetings with their respective prime ministers.

But perhaps it is where Dr Pachauri's two fields come together, where young climate activists are directly informed by the best available climate science, that you begin to see the full potential of his work. To hear Greta Thunberg declare "Don't listen to me, listen to the scientists", or to hear her quote sections of IPCC reports to the United Nations General Assembly, is to know that the next generation is a force to reckon with, and also that it stands on the shoulders of giants.

Remembering Dr R K Pachauri

ZHANG YUE

Chairman, BROAD Group

Peace Prize. I respect him for what he had done to protect the climate. Then I had the honor to hear his speech at the Boao Forum in 2008. Amazed by his determination to contribute to climate protection, I invited him to speak at the BROAD Pavilion at the World Expo 2010 in Shanghai, which gave me further opportunity to learn from him and understand him better.

Dr Pachauri was an environmentalist who practiced what he preached

Dr Pachauri visited BROAD Town nine times. We discussed various environmental protection technologies and life styles of BROAD Town during each of his visits. Dr Pachauri was just like a Chinese and there was no obstacle to communication between us. He fully understood our attitudes and values, and the possible impact of every behavior of ours toward employees and the society. He was very wise.

He knew that we advocate no wastage of food, so every time he finished eating, he would tell me that there was no food left in his plate. As a guest of honor who came from afar, he was happy to be treated with just enough food, not to overindulge. Dr Pachauri loved to drink a little wine, and that's where we were on the same page, but there was always enough. He would normally have one or one and a half cups; I never saw him drink two.

His hand-tailored suits had been worn for more than ten years. He had participated in many of our environmental activities, but never asked for a penny. We tried to compensate him a little but he declined. His explanation is still fresh in my mind: "Money is meaningless to me ever since I've had an environmental consciousness."

In fact, many people are aware of environmental protection, but when it comes to themselves, they don't pay so much attention to it. Many well-known environmental opinion leaders do not live as they preach, but Dr Pachauri was one-of-a-kind environmentalist whose life was consistent with his words.

Dr Pachauri had a very good taste in art

Having met all kinds of people over the past few decades, I've found that normally when a person has a high taste in art, he will have a very good taste in life and social values, especially when it comes to environmental protection and fundamental human issues. Dr Pachauri was one of them.

We celebrated Dr Pachauri's 76th birthday at BROAD Town, and I was surprised to find that Dr Pachauri was so familiar with Bach, Mozart, and other great musicians as well as their classic works: he had been humming a dozen classics along with the music all the time. I always believe that there are some common rules in the world. People who have reached a certain level of literacy in one aspect must also be good in many other aspects. We can tell that from Dr Pachauri.

Dr Pachauri had been a professor at Yale University for several years. His courses were very popular among students. He would incorporate climate protection, and the preservation of ancient culture as core values. Once he quoted to me from Mahatma Gandhi: "The earth can satisfy the needs of all people, but it can't satisfy the greed of all people." To me, he was a great philosopher only after Mahatma Gandhi in India.

He said at the opening ceremony of COP16 at Cancun, Mexico: "We need to change our attitude towards life and our way of living." He stated that the concerted action of human beings to protect the climate needs three changes. First, a change in policy: countries should not make the pursuit of growth their priority. Second, a change in science and technology: the goal of science and technology should not be to bring unlimited convenience, but to enable people to live a happy and safe life. Third, a change in attitude: human beings should not take unlimited material satisfaction as their ultimate goal.

In his speech, he gave his own example: "When I have developed a low-carbon lifestyle, I feel that life is more convenient and more carefree." The audience showed their respect with a long applause. These were his reflections on human behavior from the cultivated man he was.

There are far too few people on the planet like Dr Pachauri who truly regard human crises as their own

He did not care about politics. With his intelligence, knowledge, and international reputation, he had the absolute strength to run for the presidency of India. But he never thought about it, as he believed that the cause of environmental protection should be the most important. I couldn't imagine an old man in his seventies would keep travelling around the world for environmental protection and never grumbled at flying economy class.

We had a deep connection. I already had a strong sense of environmental protection before I got to know him, especially with respect to climate change, and this sense was further strengthened after we met and interacted. Of course, he also learned a lot of simple and easy ways from us to achieve large scale carbon reduction, such as building thermal insulation.

I do hope that more people will study Dr Pachauri in a pragmatic way. He introduced many practical energy conservation and emission-reduction measures in India, including low-carbon buildings and solar lighting, especially providing solar panels and an entire solar lighting system for the poor. I think these things are worth promoting, along with

other renewable-energy technologies and energy-saving measures that should also be popularized.

Dr Pachauri was a person committed to details in life, which is a habit shared by all true environmentalists: they know that life is precious and prosperous life is not easy to come by. They cherish these things. If we draw a portrait of an environmentalist, it should be focused on four elements: kindness and love, a high artistic taste, knowledge of, and an understanding of what is happening in, the world, and meticulousness.

We will always remember Dr Pachauri. I am thinking of erecting two statues in BROAD Town; I wish to sculpture two Indians: one is Mahatma Gandhi, the other is Dr R K Pachauri.

Our beloved Dr Pachauri: immortal and timeless

ZAINAB YUSUFZAI

Creative Executive, Director, Editor and Filmmaker, Jamun Media

s I sit here with my eyes closed to think what to write about our beloved Dr Pachauri, my mind shows me flashes of a person who was happy, graceful, loving, warm, and above all the kindest soul.

Dr Pachauri, as known by the world, was a man of wisdom, knowledge, and sharp vision. He was a gold example of a leader. Nothing scared him, nothing pulled him down. As a lifetime commitment, his focus was his mission to make this world a better place.

His awards, accolades, and global recognition reflect his honest dedication towards society. A global name, an international leader, and a renowned personality, who was an all-rounder, Dr Pachauri will also be my star.

I remember the feeling that touched us when we walked into his room full of awards, when we read about him in magazines and newspapers, or when we heard him speaking at seminars and conferences. We proudly watched our leader, who was a persona full of spark, wisdom, and charisma.

But that's not all. People who knew him can give many stories of the other side of his joyful, and amazing, personality. He filled the room with his light; he loved to narrate stories of his childhood; and his glittering eyes used to unfold so many tales just like a child. He had the power to relate to everyone; he knew the art of bonding. He connected with everyone at different levels and that made a compassionate leader.

The most awesome part of him was his passion to engage. Now, this was not only limited to work, but also other activities. An avid cricketer, a sportsman, a fun singer, a funny prankster, to name a few. He was such a crowd puller. Every gathering turned so warm, so humble, and so welcoming just by his presence.

I remember it was one ordinary summer afternoon. I was sitting in a meeting with him. As we finished, he asked if there were any other questions. And I, innocently, out of nowhere, asked him, "What is the meaning of your name, Rajendra?" He paused, looked

at me gave a big smile, and in a heavy soothing beautiful voice of his answered, "Rajendra means 'Rajaon ka raja' (Lord of kings)" and burst into laughter. I was, like, absolutely the right name for you!

If we think about it, I can confidently say that his name told his story. He was supreme. He had all the qualities that a person would want to achieve and strive for in life. He achieved so much on his own and was fearless. People who worked with him wanted to be like him, and others who knew him were all inspired by this energy.

Our loving Dr Pachauri believed in the theory of 'Vasudhaiva kutumbakam', meaning the world is one family. He lived this theory to the fullest. He connected with people as if he was family. He made everlasting bonds without any conditions. He was selfless, relentless, and limitless. To us, he was always the energy that enthuses the zeal to work hard, smart, and focused. The universe is one, the world is one, and so are we all as a family. Even though we might be doing our share in our lifetime, but this universe keeps our bond immortal. So is the legacy of our beloved Dr Pachauri, immortal and timeless.

Messages

Message from Salman Ahmad and Samina Ahmad

Salman and Samina Global Wellness Initiative

It is difficult to imagine that Dr Rajendra Pachauri, or 'Pachy', as he would like to be known by his friends, has passed on to the next world more than a year ago.

I had the wonderful honor and great privilege to know him as a compassionate

■ I had the wonderful honor and great privilege to know him as a compassionate friend and a courageous environmentalist or social activist.

I still remember the first time my wife, Dr Samina and I met Pachy, Saroj, and Ash in Oslo, at the Nobel Peace Prize presentation ceremony, back in December 2007. My band Junoon and I were performing just prior to Pachy and Al Gore receiving their well-deserved Peace Prize for their commendable efforts in trying to mitigate the dangers of climate change.

Later, at the Peace Prize concert, when we performed the Sufi or Rock anthems 'Sayonee' and 'Dum Mustt Qalandar', I could see Pachy whirling like a dervish, with his trademark smile and goatee.

It was in fact his love for peace and justice that bonded us so strongly.

Later on when Pachy invited Junoon to perform in New Delhi for the international TERI conference, he joined us onstage to dance and sing with the Pakistani ambassador, Mr Farooq Abdullah, and Dr Larry Brilliant joining in the chorus!

Pachy was a 'yaron ka yaar' (one of my closest friends). As mutual cricket fanatics, I fondly remember introducing him to my friend Imran Khan when Pachy was visiting Islamabad. Although Khan sahib was in the opposition then, he was visibly moved by Pachy's passion for protecting our planet (POP) and agreed to do his utmost to further the cause of protecting our environment and after he became the prime minister, he initiated planting the ten-billion-tree tsunami.

I can see Pachy smiling from heaven!

When Samina and I put together the Salman and Samina Global Wellness Initiative Concert for Pakistan at the UN General Assembly in 2009, Pachy joined us again onstage to reiterate his support for peace, justice, and normalization of relations between Pakistan and India.

Although he left us way too soon, his very important work continues to guide and inspire us as we face the challenges of pandemics and climate change.

Yaro, yehi dosti hai, kismet sey jo mili hai! [Friends, this is the friendship that fortune has bestowed on us.]

We will always miss you, Pachy.

May you always be surrounded by infinite light, abundance, and peace!

Message from Nahid Ayala

POP Trainee Mentor

or me, to talk about Dr Pachauri is very special, because I feel he is part of me.

He is the part inside of me who makes me think everything is possible and there are no limits, just me.

Talking of him is like talking about a second father in my life, who touched my life with a special energy. He believed in me, and he believed in every person who crossed his path. He made each one of us feel special. And we believed in him unconditionally.

Some people think that you have to see to believe, but he thought that you had to believe in order to see.

He was sure that we could change the world, and he was right.

Now he lives in every action we make every day. In every POP event, in every change of habits we do. He is our inside motor that pushes us to be a better person to live in this world, our world, the only house we have to live in and we have to care.

Thank you, Dr Pachauri, for being our mentor of life.

My gratitude and deep love, for all the knowledge and love I received from you, and for leaving us this big family, the POP family.

Unforgettable, you are the POP star that will shine forever and until eternity, and I pray to God that someday I will see you again in eternal life. Namasté, Patchy.

Message from Albina du Boisrouvray

Founder and President, FXB Foundation and Founder and President Emerita, FXB International

r Rajendra Pachauri, Patchy to his friends, was a very special and remarkable Working in India, I had read about him and the extraordinary institution he

had built: TERI.

Being since the seventies passionate about what could be done to help save the planet from its deadly climate destruction that would lead to the sixth extinction - this time including humanity – I couldn't wait to meet him.

He kindly set some time aside and with his soft but decisive voice and considerate manner, answered my eager questions at length.

He was there at the forefront of dreaming to deliver electricity to the remotest parts, not only of India but of the earth, with his very elegant and efficient yellow solar powered lamps, so that children could study after sunset and adults could see, sew, read, or cook, thanks to what in Europe is called 'the Electricity Fairy'.

In another visionary move, Patchy, understanding before most how the youth were needed and would be instrumental if our humanity was going to succeed in changing its ways of producing and consuming, set up his remarkable movement: POP, or Protect Our Planet. He also encouraged them to find ways of fighting the detrimental effects already witnessed on the earth.

Managing in such short time to gather tens of thousands of young people from different continents is one of his many visionary achievements.

Most deeply honored was I when he invited me to join the advisory committee of his POP movement.

He is and will always be sorely missed as a friend and as a great leader of change. His spirit remains and is carried on by his dear talented son, Dr Ash Pachauri. His memory is cherished and engraved on the hearts of his friends and admirers.

Patchy, you are unforgettable.

Message from Jasmina Bojic and Misha Milojkovic

Director, Camera as Witness Program, Stanford Arts Founder and Executive Director, UNAFF & UNAFF Traveling Film Festival

Member, UNAFF Advisory Board

Te tremendously enjoyed meeting Dr Pachauri on two occasions: in the Dominican Republic for the environmental film festival and in California for UNAFF, the United Nations Association Film Festival. Unfortunately, we never had a chance to work with him or spend substantial time to get to know him more closely. All we can say is that he impressed us with his devotion to his causes and his energy, expertise, and passion, which were obvious.

Message from Bryan Cooke

Professor Emeritus Public Health, University of Northern Colorado and La Martiniere College, Lucknow Student 1950–1954 and Faculty 1956–1961

n the 1950s we were Martiniere students. Patchy was a senior when I returned to our alma mater as faculty after my teachers training.

We lost touch when I left in 1961 for graduate studies at the universities of London, Illinois, and Texas.

After 38 years, while I was on a Fulbright Fellowship in India, we reconnected along with other distinguished alumni in Delhi. I'd just visited our alma mater and shared photos of our school in disrepair. Despite his busy schedule he immediately responded by establishing the Major General Claude Martin Memorial Foundation and with donor funds, he initiated the restoration of Constantia.

During 2003 through 2005 we continued to meet while I was on my third Fulbright and second Rotary Lectureship at Indian medical schools. Despite his dream of owning a Don Bradman 'Baggy Green' cricket cap, he was genuinely thrilled when Jackie, my niece from Perth, brought him an Aussie 'Floppy' cricket hat instead!

The scientist that he was, he educated the world on the dangers of global warming. What Jacques Cousteau was in the early 1970s, Patchy was in the late 1980s! The harbinger of climate change who went on to become the Director General of TERI, The Energy and Resources Institute, and the powerful voice of IPCC, the Intergovernmental Panel on Climate Change.

Although the IPCC received the Nobel Peace Prize under his leadership and the highest honors from France and India, modestly he deflected the recognition on to his team.

He was an exceptional environmentalist who described the human ecologic impact in an easy-to-understand way that changed the world. He was a man who talked with kings, prime ministers, presidents and vice presidents, yet never stopped caring for common folk.

In 2011, as Rotary District Governor of Idaho, Wyoming, Nebraska, and Colorado, I invited him as a keynote speaker for my District Conference. He graciously excused himself because of a WHO commitment in Geneva, but instead he sent a stirring video message that was the highlight of the conference!

A wise, articulate, extemporaneous speaker, outstanding educator, innovator and one of the finest human beings I call my friend. He enlightened the world and left a footprint that is hard to replace!

Message from Héctor Mayagoitia Domínguez

Former General Director of the National Polytechnic Institute and currently Head of the Polytechnic Coordination for Sustainability

Although I learned about some of Dr R K Pachauri's contributions in the fight against the global ravages of global warming, when the IPCC, under his leadership, won the Nobel Peace Prize in 2007, I had personal contact with him from the time he organized the World Sustainable Development Forum during 1–2 February 2018. With participation of several hundred speakers from Mexico and other countries, important contributions were made in favor of the national and global environment.

I was struck by the fact that in addition to directing transcendent messages, he personally guided the development of the working tables, including the award ceremony for WISE, short for the World Icon for Sustainability Endeavour. I had the high honor of being a recipient, on 1 February 2018, in the welcome presence of former government officials invited by Rajendra Pachauri: Dr Yukio Hatoyama from Japan, Dr Bharrat Jagdeo from Guyana, Dr Lawrence Gonzi from Malta, and Dr José Manuel Barroso from the Portuguese Commission.

Continuing his tireless work to promote sustainability (environmental, economic, and social with equity) as a basis to save our world, Dr R K Pachauri organized the World Sustainable Development Forum in the city of Durango, Mexico, at the beginning of 2020. The forum was held during 4–7 March 2020, after his death on 12 February 2020, in the presence and participation of the governor of the state of Durango, Dr José Rosas Aispuro; the Secretary of Foreign Affairs, Dr Marcelo Ebrard; the Undersecretary of Multilateral Affairs and Human Rights, Martha Delgado; and the General Director of the National Biodiversity Council, Dr José Sarukhan, with the able direction of the children of our dear friend Dr Pachauri, namely Dr Shonali Pachauri and Dr Ash Pachauri, and with excellent support from Dr Norma Patricia Muñoz, President of the Climate Change Council of Mexico.

The Nobel Peace Prize (2007) and the United Nations Intergovernmental Panel on Climate Change (2002) inherited many lessons, warnings, and actions for mitigation and adaptation to climate change, from which we selected, for their importance, the following text: "Human existence will be affected by the scarcity of water and food and the increase in poverty levels."

Rest in peace, our dear friend and guide to a better world!

Message from Ana Dutra

CEO, Mandala Global Advisors

ver the course of my career, I have had the privilege of meeting many leaders. Some were world-class operators; others were innovative and transformational dynamos; and yet others were what I call 'people magnets'. Our Dr Pachauri - affectionally known to most of us as Patchy - was an inspirational, operational, and transformational leader-a rare combination. Throughout his life, Patchy stayed true to his passions, inspired others to join him in his journey, and was one of the most driven and results-oriented leaders I have had the pleasure of partnering with and observing in action. While Patchy is no longer with us, his legacy will live forever, not only with all of us but also with so many who never had a chance to meet Patchy. His dedication to environmental issues and to preserving our planet will certainly bear fruits for generations to come. The way Patchy engaged broad support to our cause from sponsors, partners, and all kinds of supporters is something to be taught and learned from. Yes, Patchy pushed his environmental mission and agenda in an unstoppable manner, but, at the same time, he always demonstrated his care and love not only for his life passions but also for the people he was surrounded by. I had the honor of knowing and partnering with Patchy for many years. While his passing certainly created a void in all our lives, his wisdom, endless energy, and kind words will remain with me forever. It has been nothing but an honor and privilege to know our dear Patchy and for that I am immensely grateful.

Message from Erik Eid Hohle

Managing Director, The Energy Farm Centre for Bioenergy in Norway and The Energy Farm International Foundation

r Pachauri had a large network in Norway that represented authorities, research institutions, green industry, and environmental organizations. Through some of these Norwegian colleagues of him, I came to know Dr Pachauri in 2013.

The year after, TERI and the company I founded in 1991, namely Energigarden – The Energy Farm - established the EFIF, the Energy Farm International Foundation. Dr Pachauri really believed in the concept and the 'Vision statement for Energigarden' that he wrote gave a kickstart for widening the concept outside Norway. He was the chairman of the foundation from 2014 to 2018.

Dr Pachauri also gave me the opportunity to represent EFIF at the High-Level Corporate Dialogue in TERI's Delhi Sustainable Development Summit in February 2014.

Through these first years, TERI and Energigarden made pre-feasibility studies for energy farms in Kenya, Ukraine, Myanmar, and India. So far EFIF has established an energy farm in south-west Ukraine. Bioenergy alone can cover 80% of Ukraine's internal energy demand. Through the years, close to 30 countries have contacted EFIF with requests to build a center in their country.

Patchy did a tremendous job for EFIF as our chairman, and developed the concept further so that it is now possible to spread it to new countries in years to come.

Patchy became a mentor for us and made us believe that EFIF's concept could reach a worldwide geography. It was a great loss for our foundation, and also for me personally, when he passed away in 2020.

Dr Pachauri called The Energy Farm a brilliant concept. We hope we can take his vision and ambitions farther in years to come—and in this way honor his memory.

Message from John Kerry

United States Special Presidential Envoy for Climate

To all of you attending the World Sustainable Development Forum, I want to say thank you for the privilege of being able to say a few words about Dr Pachauri, Patchy, our great, great, friend. I can think of so many climate events that I have attended over the years whether it was the UN or when I visited India, and he particularly hosted me and was so generous in his welcome. I've heard Patchy be the voice of conscience for all of us and frankly, the Pied Piper—the man who helped to lead the way. And I want to honor him along with everybody else for being such a special, extraordinary climate warrior. He was there at the beginning, he was there at every step of the way. He had a special sense of mission as all of us know, and a wonderful way in helping people to understand the depths of this challenge that we face.

Our tribute to him will not be in these words or just in our memories, but in the work that we do now because, as everybody knows, we are way behind. No country in the world is getting the job done. And we need, desperately, to come together to literally create a war-footing for nations to be able to meet this challenge. As Patchy reminded us many, many times, the solution is not out of grasp; it's energy policy. And he would be the first to say to us, "We have to find not the capacity, we have to find the will. We have the capacity."

So, he was a dear friend to all of us, and he set an example for courage and breaking new ground and fighting for the facts, for the science. We all owe him an enormous debt of gratitude. And to Ash, who's going to continue the work in his place, I wish you well, my friend. You're following in great, important, very large footsteps. We all are. But I've got a feeling that because of his example, we can get the job done. Take care, all of you, and I wish you great deliberations.

[Transcription of the talk delivered at the World Sustainable Development Forum, 2020]

Message from Tushar Lakhani

International Advisory Board - POP Movement

Patchy, if I know him well, is around. His type can never go away. A man who was always filled with so much energy can never depart this planet. He is in the breeze we feel and in the light we see. His was a life never separated from nature and in his last short years on this planet I was fortunate to have met him in my lifetime.

Our first look at each other at my daughter's convocation is fused in my mind. One communication to him, and we were his guests in Delhi. He was possessed with making this planet a better place to live in, and knowing our daughter's interest in the subject, he had a plan ready for youth. The first notes were prepared over lunch, eventually leading to the POP Movement is evidence enough of the energy our dear Patchy was capable of generating. I wonder if he ever slept: travelling for hours across continents, he always had time for friends. Despite so many things on hand, he never kept you waiting for a reply.

Only a fighter like Patchy could face the world the way he did, especially during his last few years. The media trial no doubt weighed heavily on him. An eagle's wings clipped by society, and his close friends were his support. And the man was not one to give up: he stood for what he believed in. Mighty powers tried to crush him, but he did not relent. That's the way to go, Patchy—I know you're around, sadly looking at the pandemic and saying: "I told you so!"

Message from Mark D Levine

Senior Advisor, Lawrence Berkeley National Laboratory

first met Pachauri when he came to LBNL, the Lawrence Berkeley National Laboratory, probably in the early 1980s. I had a very nice chat with him about energy. He later had a meeting with Jayant Sathaye, in which he said that he felt I was a good guy!

I met him later in the decade when I travelled to India and visited TERI, the Tata Energy Research Institute, of which he was the Director. He and his associates were so kind as to put me up in the TERI guest house. At that time, I met the man who did maintenance at TERI, a fine, honest, and hard-working man who slept on a mattress in the basement of TERI.

Of course, everyone knew Dr Pachauri as the leader of the Assessment Report that won the Nobel Peace Prize for the IPCC. He brought the attention of the world community to the work of the IPCC. He wrote a letter to major contributors to the Report that they could describe themselves as co-authors of the report.

I once met Pachy on a flight. We discussed international politics. We found many areas of agreement between us.

I found Pachy to be highly intelligent, very articulate on a wide range of topics, kind, and generous. I was greatly saddened to learn of his death. His legacy is large and will live for many decades or longer.

Message from Ulrich Loening

Senior Advisor, Lawrence Berkeley National Laboratory

n article I had read somewhere described how the UN had been searching for a milder, less outspoken, chair for the IPCC. Finally, they found the right person in a little-known engineer from northern India, who would be a 'safe' appointment. I was delighted when that choice turned out to be even more bluntly outspoken than the previous chair! I had often seen such situations as a human ecologist at the University of Edinburgh; situations in which a politically safe appointment became more, much more, than was bargained for. Soon the name Rajendra Pachauri became universally known as the outspoken 'leader' of the IPCC. Of course, such a large body had its difficulties and inevitably made some mistakes, even if only typing errors, and criticisms ensued. But he survived all that. And I was especially delighted to see that he strongly supported the 'Contraction and Convergence' scheme for equitable solutions to climate change. Then at the 50th anniversary meeting of the Club of Rome in Zurich in 2018, I was thrilled by his challenging talk about the urgency we are in. Immediately, I introduced myself. Here was someone I could talk with, open, straightforwardly honest, and above all human. So I boldly asked if he would like to support my nomination of a candidate for the Blue Planet Prize. Yes, and we exchanged email addresses and were on Patchy and Ulrich terms instantly. I sent him the Blue Planet details. After discussion, we ended up nominating two different candidates in mutual agreement. In the course of that, Patchy sent me an article he had written about his meeting with the UK prime minister when he was Mayor of London, a hilarious document describing their exchanges about meat eating, reflecting exactly (unbeknown to him) an old workshop we had held at the Centre for Human Ecology nearly 40 years previously. In return I sent him a piece I had written, a Glossary of Human Ecology satirising my colleagues. Patchy wrote back to say how much he had enjoyed it and suggested that I should publish it!

Despite the distance and the pandemic, here was a valuable, lovely friendship developing. I think we each looked forward to exchanging global ecological thoughts. After a short lull, I read how Dr Rajendra Pachauri had passed away suddenly. I could not believe it at first.

Dear Patchy, rest in peace. You have done so much to improve the world, your inspiration will be with us always.

Message from Wanjira Mathai

Vice President and Regional Director for Africa, World Resources Institute

It is an honor to share a short tribute to Dr Pachauri whose leadership and work on energy and climate were visionary. I continue to be inspired by the work that TERI, The Energy and Resources Institute, does and recall with great fondness the delegation of African energy entrepreneurs who visited TERI in India and were inspired by the possibilities of green buildings and green energy. Today we continue to push for humanity to wake up to the reality of climate change and the role we must all play to maintain planetary health. So much has happened that seems to be tipping against us—COVID-19, temperature extremes, flooding around the world and so much more. How many more alarm bells do we need to acknowledge this reality?

Climate change action has always relied on champions like Dr Pachauri to keep the pressure on, to inspire action, and to cut through the confusion. Today the IPCC continues to remind us that time is running out and that we have to act with unprecedented speed to keep temperature increase with the 1.5 °C target. We miss his voice and his counsel. But his legacy lives on in all who continue to fight the good fight. We must finish this race.

Message from Richmond Mayo-Smith

Founding Partner, Climate Finance Partners LLC, USA

r Pachauri (Patchy) was a dear friend and an inspiration for me over the past 14 years since we first met at COP 13 in Bali. We were waiting in line together to check into a flight and struck up a conversation only to learn that we both attended La Martinere prep school in Lucknow. I was just beginning my journey of working to reverse climate change. Patchy mentored me and made many valuable introductions. I was invited to attend the Delhi Sustainable Development Summit in India a few times and also in Mexico where his never tiring crusade to protect the planet carried on until his passing away. We all miss him greatly!

Message from Paul McCartney

Singer, songwriter, philanthropist and co-founder of the Meat Free Monday campaign

r Pachauri was a great man I had the pleasure of working with. He will be sorely missed but all his good work will live on. Condolences to his family.

Message from Cherie Nursalim

Vice Chairman, GITI Group Special Advisor to the Government of the Republic of Indonesia

Pachauri has been a champion of system dynamics and thinking in solving the climate crisis in India and globally. It has been my honor to know him and to have won his support for our Kura Kura Bali dream.

Message from Carter Ries

Co-Founder, One More Generation

ave you ever met someone and thought, "Wow, this is truly an amazing person"? That was exactly my first thought the first time I ever met Dr Pachauri. I remember the moment so clearly as if we had just met moments ago. I was at Laura Turner Seydel's house where I was attending a climate change conference with some of the smartest people in Atlanta. I was roughly thirteen or fourteen years old and I remember the moment Dr Pachauri stepped up in front of everyone and began to speak. It was incredible. He had such a way with words that my thoughts never wavered from what he was saying. In that moment I was beginning to not only look at an astounding presenter, but a soon-to-be hero. Once his presentation ended, I asked him a question regarding his presentation, to which Laura Turner Seydel invited me up with him, to receive his answer personally. I shook his hand, and introduced myself. He spoke to me not as a kid, but as someone who had the ability to actually make a change, and that made it real for me. We later exchanged emails and so began our work together.

If I ever had a question I emailed him. If he was ever in town I would ask to meet with him and have lunch together. He was always available, which is something rare in today's busy world. A few years later, I received an email from him asking me to be a part of the POP Movement. I immediately joined without hesitation and another adventure began with the greatest mind I had ever met. I watched him give many presentations and each time, I became more and more invested and encouraged. He went from someone I hardly knew to a great friend in a matter of years.

I remember the day Ash Pachauri called me and told me of the tragic news of Dr Pachauri's passing. After we hung up, all I can remember doing is sitting there in utter disbelief. Someone whom I had shared a passion with, and a similar mindset, had left us with a task I once thought only he could achieve. Knowing him and his son, he loved me, and I him. I would not change any moment spent with him any differently. I see so much of him in Ash and it gives me great hope for this planet, and I am so glad I got to spend the time I did with such a brilliant mind. I will never forget the day that began our long friendship. It really is quite interesting though. One moment, you can be complete strangers with someone; the next, you have a friend you will cherish forever.

I love you, Dr Pachauri!

Message from Bittu Sahgal

Founder, Sanctuary Nature Foundation, India

followed and was consistently inspired by Dr Rajendra Pachauri's work long before I ever met him. As Chairman, IPCC, the Intergovernmental Panel on Climate Change, and as Director General, TERI, The Energy and Resources Institute, he was catapulted on to the global stage on the then contentious issue that was the focus of his life—the Earth's climate crisis.

He took the fossil-fuel lobby head on and when I did get to meet and know him he would often say to me, "I have the distinction of having more enemies than friends," quickly adding that with science and truth as a shield, neither he nor the IPCC would be cowed down, or deterred from informing the world that the destruction of Earth's biosphere was a direct result of human mismanagement.

For his life's work, he got his fair share of awards including the Nobel Prize on behalf of the IPCC, which it shared with Al Gore. India also awarded him the Padma Vibhushan, but in private conversations, when he became a friend, he would say: "I am humbled and honoured by awards, but what good is any award if one's life-purpose remains unfulfilled?"

The Sanctuary Nature Foundation and TERI began to work together on educating and influencing public opinion and he fuelled our purpose by adding credibility and weight to the imperative that India and the world would find no climate solutions unless the stabilization of the biosphere was kept at the center of climate policies, priorities, and actions.

I miss Patchy (as he was best known to his friends). I miss his laser-like focus, and his ability to home in on key communications to drive vital climate messages across to world leaders. He did not live long enough to witness how his life's mission eventually came to be accepted by all those who discounted the climate science he swore by, but every cyclone, every cloudburst, every drought, and every massive human migration bear testimony to the fact that he was among those who helped define the limits to human ambition and growth.

Message from Sadhvi Bhagawati Saraswati

Secretary-General, Global Interfaith WASH Alliance

To the nation, the world, and Mother Earth. He was, as we all know, a brilliant scientist. He was always my go-to expert with any question or confusion on any topic that I needed explained in a way that made sense even to someone without his expert background. That is truly the mark of a master: that they are able to take the most complex topics and concepts and explain them in a way that is so simple that even a child can grasp. Dr Pachauri ji was truly such an expert and a master. However, not only was he an expert on science and especially the science of climate and climate change but he was also an ardent advocate for the protection and preservation of this sacred planet and all of our sisters and brothers, of every species, with whom we share it.

We all know the politics and the economics involved in the debate around climate change. To take a stand that is not agreeable to so many business leaders, corporate heads, and political heads around the world is not an easy feat. It requires a person who has the intellectual and scientific brilliance to support his findings in the face of any and all disputes. But it also takes a person who is so anchored and grounded in their commitment to the Truth that they are prepared to align with the Truth, and only the Truth, in the face of what must have been unimaginable pressure to sway the facts in a way that was more agreeable to the world of development, industry, and governance. His leadership in the world of climate change is truly historic.

We honor and pay great tribute to soldiers who die on the field of duty, in the midst of serving and protecting their nation. Dr Pachauri ji was a warrior, the strongest and most fervent type of soldier, for Mother Earth. His life was dedicated to ensuring that all present and future generations of every species have a healthy and sustainable planet in which to live. His passing came while engaged, as always, in the service and protection of not only the nation but of the planet.

Let us honor and pay a tribute not only to his life but to his work. Let us carry that torch forward for a healthy and sustainable planet.

I am so proud of our Ash, who has taken this torch and is lighting the way for so many. Let us all come together in this critical work.

Message from Michael P Schulhof

Chairman, GTI Capital Group

In 2006, I was looking for interesting new technologies to help launch start-up companies. The idea of approaching well-known research laboratories had worked for me in the United States and led to the formation of Coldwatt, a high-efficiency power supply company with technology coming from Rockwell Scientific in California.

With an open mind, someone in India suggested I should visit the research group run by Dr Pachauri. We immediately found common ground as I'm originally a research PhD in physics and Pachy had a wonderful background in all things bio and chemical.

Upon hearing that I was looking to pull technology out of his lab to start up a new company, he showed me the work being done on microbial enhanced oil recovery: something still in early stages but showing signs of great promise in India.

We quickly came to terms and agreed that we would start up a company, soon to be called Glori Oil. Following a search for CEO, we decided to make Houston, Texas, the headquarters for the company and the relationship with Pachy and TERI was born.

Over the years I grew quite fond of Pachy and made a point of visiting TERI on each of my trips to New Delhi, occasionally going to his home outside the city as well. As Pachy became more involved in the United Nations IPCC, the Intergovernmental Panel on Climate Change, we still managed to meet when our paths crossed, either in the US or in Paris or in India depending on his frantic travel schedule.

I always admired the warm spirit, larger-than-life smile, and intense curiosity in all things scientific regardless of field. In that respect Pachy was a true renaissance man for the 20th century.

Message from Naina Sharma

Environmental Lawyer

Ifirst met Dr Pachauri when I was working on projects pertaining to environmental law at TERI. And what I always admired about him was his inclination to think out of the box coupled with his drive to get the work done. It would not be a stretch to say that he was arguably the first environmentalist from India who managed to build a diverse coalition of allies across the globe.

Dr Pachauri played a pivotal role in amplifying environmental initiatives within India on the global stage. It is for this reason that practically every environmental scholar outside India has heard of TERI. On my part, I got the opportunity to collaborate with him when I moved to the United States to pursue my master's in environmental law and policy. During that period, I prepared a database of landmark cases on international environmental law for him: he was very keen on identifying ways in which he could amplify the issues faced by countries that are likely to be disproportionately impacted by climate change. To this end, he built an incredible network of allies that included heads of states, senior scientists, professors, and philanthropists across the globe. And the results were there for all to see: within a very short span of time he managed to bring together some of the most influential voices on the planet to endorse the cause of climate change through his organization, the World Sustainable Development Forum.

Despite his failing health, Dr Pachauri's resilience ensured that there was never a dull moment around him. At one point when I was assisting him with ideas for a summit that he wanted to convene, I was amazed to learn that he had been responding to my emails even as he was hospitalized in Mexico. In fact, just a few days before his unfortunate demise we had exchanged emails and texts through which he had encouraged me to participate in the WES Summit. So, it was evident that he was passionately focused on protecting our planet even till his last moments.

Dr Pachauri's body of work will continue to serve as a guidepost for generations of environmentalists to come. I feel honored and fortunate to have had the opportunity to collaborate with him. And now that Ash Pachauri has taken over the reins, I wish Ash the very best in all his endeavors.

Message from Liz Updike

First Vice President - Investment Officer/Financial Advisor

I had the pleasure and honor of knowing Dr R K Pachauri and learning about his worldwide efforts to raise awareness to protect the environment and to educate people about the effect and consequences of climate change. Dr Pachauri's passion for this work was contagious, and I could see that his commitment was genuine to such a degree that I became more engaged with learning about these issues and engaging with Dr Pachauri to provide service and support with the utmost respect to ensure that Dr Pachauri's vision and fundraising efforts would be rewarded with proper investment and growth to support this noble cause well into the future. Dr Pachauri was a force for the good in the world and his work was important. He spent his life dedicated to worldwide service and his memory will live on through his valuable contributions.

Message from John Vidal

Environment Editor, The Guardian, London, 1989–2016

met Patchy – it was always Patchy – for the first time in about 2005. He was in London for a meeting with the UK government ahead of a UN climate summit. I sent a message to his office and we met in a pub. I was expecting at most a quick 15-minute chat but he gave myself and a colleague over one hour.

As in every other encounter we had in subsequent years, he was generous with his time, unfailingly courteous, passionate about the world, and determined to make sure the rich countries did not take advantage of the poor. He spoke eloquently of the dangers which countries ran by not addressing climate change.

Over the next 15 years we met nearly every year, mostly in London, but once at the TERI office in India and then in Mexico where he had organised a major conference. We got to know each other better. We talked about cricket, family, politics, and sustainable development. He was proud of his achievements with TERI and the UN, excited about the rising global awareness of climate, and optimistic about the energy and resourcefulness of the young. He collected around him the best and the brightest people and it was clear that they appreciated him.

Patchy came from a romantic tradition of honourable leaders versed in both the arts and the sciences. For that I feel privileged to have met and known him a bit and to have appreciated the work which he accomplished over a lifetime.

I only wish I had played cricket with him!

Message from Jonathan R Woetzel

Director, McKinsey Global Institute

Ifirst met Dr Pachauri (Patchy) in Nursultan, a relatively far off place, as we both gave our ideas on how to transform Kazakhstan into a sustainable economy to the leadership of the country. Dr Pachauri was seated opposite me as a Nobel Prize winner whose advice the conference had directly solicited. When his turn came to speak, Dr Pachauri's humility, insight, and relevance to the task at hand struck me and the leaders in attendance as supremely engaging. I was so impressed that I subsequently invited Dr Pachauri to join me in China. The city of Beijing aspired to develop a science district as a home for future Nobel Prize winners and was looking for world-class advisors who could think broadly and globally. Of course, my first thought was of Dr Pachauri but I did not expect that he would actually join our project. Not only did he agree to engage but he flew to Beijing to sit down with the city directly. Again, Dr Pachauri impressed not only me but also our audience with his capacity to imagine a better future for all and how to get there.

I will treasure my memories with Dr Pachauri not only for his insights but also the warmth of his personality. I well remember sitting with him in the coffee shop of our Beijing hotel as he elaborated on the many ways that Beijing could be a lighthouse for science and a platform for collaboration across Asia and the world. He was truly a gifted counsellor who left his mark on public, private, and scientific leaders, challenging them to think bigger about what could be possible, and inspiring them with the breadth of his vision. He was remarkably down to earth and willing to listen to all: in the words of the poet, he could walk with kings but not lose the common touch. As a humanitarian, a scientist, and a leader, he was a role model. He would want us to carry on in that tradition, never faltering and always giving of ourselves for the betterment of all.

About TERI Alumni Association

The TERI Alumni Association consists of over 100 members currently working in TERI and over 300 members earlier worked there. The objective of the Association is to keep the alumni connected with each other and also with their Alma Mater to work together to achieve the objectives that guide their mutual interests. It proposes to work on the broad areas of Preservation of the Environment and Sustainable Development. Towards this objective the Association frequently organizes various activities apart from providing opportunities for the alumni and TERI staff to stay connected.

About TERI

TERI is an independent multi-dimensional organization with capabilities in research, policy, consultancy, and implementation. TERI has pioneered conversations and action in the fields of energy, environment, climate change, biotechnology, and sustainability for over four decades. TERI believes that resource efficiency and waste management are the keys to smart, sustainable, and inclusive development. TERI's work across sectors is focused on promoting efficient use of resources, increasing access and uptake of sustainable inputs and practices, and reducing the impact on environment and climate. TERI has fostered international collaboration on sustainability action by creating a number of platforms and forums by translating its research into technology products, technical services, as well as policy advisory and outreach. TERI's 1200-plus team of scientists, sociologists, economists, and engineers delivers insightful, high-quality, action-oriented research and transformative solutions supported by state-of-the-art infrastructure.

POP (Protect Our Planet) Movement

Youth Inspired by Knowledge thepopmovement.org

The POP (Protect Our Planet) Movement was conceptualized by Dr R K Pachauri to involve youth in addressing climate change. He advocated youth-led action founded on science. He said, "We believe the time to act is now, and we believe that knowledge is the true currency of changing the future." Dr Pachauri coined the tagline 'Youth Inspired by Knowledge'. He was convinced that intergenerational change is necessary, and that the young should be empowered to make a difference because the impact of climate change would be felt most by future generations. He also felt strongly that a grassroots movement was essential to reduce the burden of growing costs and complexities inherent in actions to mitigate the adverse effects of climate change.

Launched in Mexico in 2016, POP Movement today is active in 123 countries, has 421 diverse global partners and reach over 2.5 million youth. The Movement has earned several distinctions, including the CMCC Climate Change Communication Award, "Rebecca Ballestra" 2021. In 2021, the Movement's Senior Mentor won the GlobalMindED's Inclusive Leader Award in recognition of the organization's exemplary work in the fields of sustainability and energy.

Global climate change is now a fact of life. Fortunately, it is not a fact that is merely accepted but one that has stirred world leaders into action: concrete, comprehensive, and collaborative actions aimed at adapting to the reality and at mitigating its adverse impacts. The recently concluded Conference of Parties to the UN Framework Convention on Climate Change in Glasgow is clear evidence of that collaboration. However, this was not always so. And it took the efforts of many, among whom was Dr R K Pachauri, twice elected to the chair of IPCC, the Intergovernmental Panel on Climate Change, which was awarded the Nobel Peace Prize in 2007.

Although published to honour the memory of that remarkable individual, this volume is not so much a tribute as a collection of anecdotes recounted by those who had been associated with Dr Pachauri in making the world aware of the consequences of climate change—anecdotes that not only recall his single-minded pursuit of that goal but also reveal multiple facets of his humanity, philosophy, and intellect. Although Dr Pachauri was known to be acquainted with prime ministers and presidents and Nobel laureates, his connections with them ran deeper, as they did with hundreds of others less exalted. What shines through the recounting is the special place he held in the hearts of each of them.

Dr R K Pachauri: the crusader against climate change is neither an assessment of his life and work nor a compilation of expressions of good wishes. Instead, it shows the international dimension of his work, from Norway to Mexico and from Japan to the United States, because for him the whole world was one, not divided into the North and the South or the East and the West but one large family. He gave his all to whatever he did, from furthering the interest of his school to steering the representatives of scores of nations with conflicting interests and divergent views towards a consensus.

The battle against climate change continues, but the torch has been passed to the next generation. Its members will find much in this book to inspire them, and those of the generations before them will take comfort from the fact that their efforts have not been in vain.



