

**FROM THE PRESIDENT**  
**Prof. Dr. Madhusudan Bhattacharyya**

Dear Members,

Your institute is going to observe the Centenary Year from the next year in a befitting way. One hundred years of survival of an institution founded by a few national engineers to fight for the causes of Indian Engineers against the discrimination meted out to them by the British Raj is phenomenal. After independence also, our institution got little patronage from our own governments. We acknowledge it is a failure on our part. Nevertheless, The Association of Engineers, India now is a name to reckon with not only in India but abroad also. We have been running different training courses like Advanced Diploma in Safety, Construction Supervisor courses and the students successfully completing the courses have been mainly absorbed in industries in Indian and abroad. Some have become entrepreneurs too.

That apart we organise one-day / two-day short time programme on various subjects on demand.

We have been working on Rain Water Harvesting (RWH) since 2006. To start with, we installed RWH structure at our Salt Lake Training Centre followed by offering short duration courses since then both at our training centre and outside like in Sundarban Basanti, Charpataihat; we have borne the expense of constructing RWH structure at one Sundarban School, Charpataihat School to name a few. To popularise RWH, we held seminars at different locating in Kolkata and Salt Lake City. We give consultancy for RWH to individuals and organisations at minimum fee.

Although we could not do as much as we planned to do, we have been able to motivate our participants through our RWH courses and seminars, who in turn have constructed RWH structures at their work-places/homes. We are happy to say that we started RWH training programme for the first time in West Bengal, if not in Eastern India. We are still on the job since RWH is one of our vital missions. We are committed to do our best to mitigate the water-woes posing a threat before the huminity.

Now we have started offering skill development training programme on Solar Photo Voltaic Generation of electricity. The 2nd batch will start on and from 22.04.17; it is a six-week programme, classes on Saturdays and Sundays, 12 noon to 4 pm. Generation of pollution free electricity from this reasearable source of energy has a vast potential in our country also.

March 21, 2017

Sd/- Madhusudan Bhattacharyya

From the president

**Note :** This article was written by Prof. Dr. Madhusudan Bhattacharyya last year. However, he lost the write up while he was ill. Early this year, he could find out this write up, and the same is being included in this issue when Inauguration of the year long Centenary Celebration of the AEI has already been done – The Editor.

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The illiterate engineer is seized with the inertia of indolence. His pen has been playing hide and seek with words for more than three weeks last. He is bewildered.

Here! Here is something happening–Budget proposal for 2017–18. TV Channels are abuzz in dissecting the budget figures with loud cacophony and the viewers get more confused than the budget proposal itself. (Successive finance ministers admitted that their wives were their finance ministers at home.)

Budget figures are very dynamic, very mobile like our leaders; You can connect one, but can not reconnect the same him again as in the mean time he is metamorphosed. So is the budget allocation. One can ask any time for reallocation of fund in the same Parliament. The same is approved and new taxes in the form of cess, service tax, etc. are imposed, or they are hiked. Any body can take up the finance portfolio so long *Gouri Sens* (Aamaadmis) agree to be the beast of burden. Plan and Non-Plan expenditures have been merged. Hope some tangible and permanent assets would not be wanting.

Let me come out from the shackles of delirium, friends.

I was puzzled no sooner I had entered the shed housing the Nitroglycerine and filler mixing plant of an MNC Explosive factory at Gomia than the plant stopped abruptly. Had I done something seriously wrong? The workers were looking at my shoes. That was probably my second day at the factory. I got nervous, looked up somehow at the accompanying officer taking me round the production shops, with a feeling of guilt and humiliation. He smiled and softly told me, Do you look at your shoes? I apologised.

On the first day of my joining. I was given a pair of shoes, one shoe coloured red and the other black. That I have to walk down daily a kilometer from my quarter to the workplace with the jockey's shoes on irritated me. Immediately I bought a black shoe polish; and I persevered hard to proselytize the red shoe to match the black one. I felt happy at my ingenuity, said Er Samir Nag, my ex-student and now we are working with AEI as volunteers.

Then what did you do Nag?

Nag says, I jostled with the red (turned black) shoe to reconvert it to its original hue. Oh, it took me very long to rechristen it!

What did your boss say?

He simply smiled at me with indulgence.

Indeed, such a small example teaches safety practice at workplace much louder than tons of precept.

This happened more than four decades ago when industrial safety rarely concerned any soul.

Year 2010. The General Manager of a private Ltd. Company located at Sankrail Industrial Estate, Dhulagarh, W.B. rains me up, Am I speaking to Professor Satpathy?

Speaking please.

Sir, we have two high rolling mills, 16 stations extended to 21 stations. Mill width 1500 mm, pitch 1200 mm, arbour Ø160 mm run by squirrel cage 3-phase induction motors [One 200 H.P. (~150 kW motor, shaft diameter Ø 110 mm to drive 8 stations; One 170 H.P. (~ 130 kW motor, shaft diameter Ø 92 mm to drive 8 stations; added 5 stations are independently driven by 22 kW geared motors]. The details within parentheses were collected while inspecting the factory.

Yes, Mr. Mitra. How am I connected....?

Sir, we request you for consultancy, since we are facing problems in rolling the product.

Thank you for approaching me; but I have never worked in rolling mill operations.

Mr. Mitra said, We know about you.

But I don't remember to have met your earlier.

No, that's true. I have heard about you from your friend Professor Krishna Prasanna Majumdar.

I don't know what have you heard about me from him. I fail to realize how can I be of help to you, since I know very little about rolling mill work.

Mr. Mitra laughed soulfully over the telephone. We want an unbiased engineer like you to study out problem.

Nowadays I have backed off from consultation job, the last one was in 2002 on request.

Mr. Mitra grabbed this opportunity and said, So please come to our rescue this time also.

Mr. Mitra, you could also be a good lawyer.

Anyway I ask parties to pay my consultation charge in advance.

We are aware of this, courtesy Prof. Majumdar. We will send your fee by tomorrow.

But what then if I don't reciprocate. No matter, Prof. Satpathy, Mitra said smilingly.

Ok Ok don't send the fee, I will visit your factory day after tomorrow.

Then we will send the car at what time, Sir?

No need, your car will make two idle runs.

I will rent a car, start from my residence at 10 : 30 in the morning. Please give me a little

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direction.

I reach the factory at about 12-30 pm, am received by Mitra at the factory entrance.

Sir, take a little rest, then I will take you to lunch.

I have had my morning fill at home; if its possible, lunch may be arranged for the driver.

Mr. Mitra leads me to his chamber. One dish full of fruits and sweets is placed on the table by a bearer.

Mr. Mitra, I will only drink water of the green coconut and like to go to the shop-floor straight.

It's tiffin break now, Sir.

Good that we can converse on the shop-floor calmly and check up the roll-alignment without disturbing production.

The worn out teeth of spur gears cut on the spindle of the universal couplings are noted; practically the teeth have varished. There are so many worn out spindles lying, some are attempted to be welded and shaping of the teeth by machining and/or filing. Tooth profile gauge is used to cheak the tooth-profile.

Mr. Mitra says, If one of the couplings fails, the whole line has to be shunt. Replacement of a coupling with a new or restored coupling is time consuming, production suffers. The centre sills for underframe of wagons (of stainless steel, IRS 44, UTS492 Pa of  $\Gamma$  section are rolled having total width of ~ 650 mm and depth of ~ 300 mm out of 1250 mm width x 10 mm thick s.s. plate. [In the sixties, centre sills used to be fabricated by welding two z sections of unequal flanges of structural steel (m.s.). Changing over to better quality steels has reduced the tare wright of the rolling stocks thus increasing the load carrying capacity and consequently enhancing economy\*]. Rolling will disruption means lesser production of centre sills which adversely affect wagon production.

Mr. Mitra , can I have a talk with your roll designer?

A South Indian gentleman, much too soft spoken, comes and speaks in typical South Indian accent about the roll design.

I being a little short of hearing request him to be a bit louder, but that cuts no ice.

I thank him, he goes away.

Mr. Mitra I could not make any head or tail of what he spoke.

Sir, nobody here knows what he does, Mr. Mitra smiles.

Already it is past 2:30, the rolling mill is in operation. Mr. Mitra, I will observe their working here for some times, you may leave me here, I will come to your chamber at about 3:30.

The rolling mill has a bed length of 24000 mm (Centre of 1st station to the centre of 21st

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\*This portion within parentheses is of the author.

station). Alignment is a problem for so many rolls in so many stations. Misalignment is the devil here which is very hard to eradicate in practice. Imagine what a great amount of force is required to cold roll the 10 mm thick stainless steel plate.

I come back to Mitra's chamber. The first thing he does is to put a thick envelop in my book pocket, then come the fresh fruits on a plate along with a variety of sweets.

I quip, All for me?

Mr. Mitra smiles only.

I am not known to be such a voracious eater. Let's share the plate and see how much we can vanish.

What is your recommendation Prof. Satpathy?

Not much can be done in the existing set up. I think it could be convenient for easy and speedy maintenance if we could identify which can fail; it must be a cheap item and must not take more than few minutes to change the broken part.

Mr. Mitra looks at me askingly.

Well, let me study it for a day, I will let you know by tomorrow afternoon over phone. I would like to imagine if we replace the high tensile steel bots connecting the flange of universal coupling roll end by bolts of structural steel, these bolts will shear instead of smashing gear teeth on the sliding spindle of the universal coupling.

I confirm this view of mine the day after.

I am habituated not to get the feed back about the efficacy of my recommendation and this time also is no exception.

I look back on November 08, 2016. Existing Rs. 500 and Rs. 1000 notes cease to be a legal tender onwards as per broadcast of the P.M. of India. All these notes can be exchanged in all banks and post offices upto December, 2016 and in RBI by March 2017. So, why does the question of demoneytization cries arise? Of course this has other connotation for unaccounted maney holders. Many economists, politicians, black money holders are shedding crocodile tears for common people! I am for clensing of the economy for a better tomorrow. Is it also the noble motive of government? The government, by an unanimous and hurried resolution on the floor of the Parliament of otherwise warring members, the public servants were exempted from filing the returns of their spouses and dependent family members along with theirs (The Telegraph, July 27, 2016). Is this not running contra to the steps initiated on November 08, 2016). Public servants are MPs, MLAs, Councillors, Panchayet members, Judges, Government officers, etc.

Economists, statisticians, politicians and so called celebrities never fail to sermonize which is enough to confounded little souls like me. "The greatest truths are simplest; so are the greatest men", said by David Hare (1775–1842), British educationist and philanthropist

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in India. Speech is great, but silence is greater, specially at the time of national crises. Let actions do the taking. A cry in the wilderness!!

Bring an engineer, I am interested on anything related to engineering education in particular. Common entrance examination proposal from 2018 (The Telegraph, January 24, 2017) draws my attention. The news goes on, One engineering test plan applicable to 4000 engineering colleges and the courses by private and deemed universities except for IITs, IISC and IISERs, to admit students of B. Tech courses. Why is this stratification? Is the government not applying DIVIDE & RULE policy in education too? Of course, world class institutions are set up in India by legislation. Elsewhere, an institution has to achieve world class status by its sustained performance through years.

Government would do well to consolidate the existing educational institutions both public and private rather than founding new ones at great cost.

India is a very rich country, but her general populace is very poor. India's plans of development are prodigious with profligate budgets while small budget development works are seldom undertaken. Maintenance of existing infrastructures is conveniently forgotten as it is non charismatic.

Ill luck of India is, Indians (in spirit) are very rarely to be found amongst these who steer the country. They desire to impose the foreign systems on Indian soil which she fails to digest and hence, so much of futility in effect.

In the whole of our planet, there is predominance of disruptive forces, riots, terrorism. No nation has ever searched for their causes as the finding would not be palatable. It is an omniknown fact that despondency is the cause. How much the planet spends for arms and ammunitions and why? You want to be a Big brother! With the modern trend of mindset amongst the despots the civilization is heading towards extinction. Who knows mass scale pollution will take its toll much earlier!

The Mantra for this plant's enhanced longevity is 'You live and let others live'. Set you be rich, but others must have shelters to live under, food for sustenance, access to education, some avenues of entertainment; last but not the least, your acts and actions must not belittle others. Everybody has a right to live with dignity.

May 20, 2017

Sd./- Illiterate Engineer