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IIT-Delhi drive helps ease life of villagers

<http://www.asianage.com/metros/delhi/110417/iit-delhi-drive-helps-ease-life-of-villagers.html>

This task helped in reducing the selling price of the stove by 41 per cent and increased the margin of profit by 50 per cent per stove.



These entrepreneurs are provided with an alternative income source as they earn Rs 300 for every stove sold.

Addressing the problem of indoor air pollution, particularly in the rural areas, youngsters from Indian Institute of Technology-Delhi (IIT-D) have undertaken the initiative of introducing the concept of smokeless cooking stoves.

Started by IIT-D in the year 2013, project “Aanch” is helping to ease the lives of women community of Bhatti Mines area near Chattarpur, who have been inhaling toxic indoor air due to the only traditional “chulhas” available for cooking.

The team has introduced a low cost stove, originally designed by Philips, which optimises solid fuel consumption; increasing efficiency by 66 per cent and achieving very low smoke output. Women from the community itself manufacture this stove while marketing and installing them in the other households.

“About three billion people worldwide have traditional stoves as the only medium to cook food, which is a sad reality as the house is full of toxic fumes. Statistics suggest indoor air pollution from solid fuels accounts for 2 million premature deaths per year. So after thorough research, we thought of providing the rural area a more efficient cook stove,” the IIT-D team said.

Through the project, each new women entrepreneur invests to purchase the mould, which is recovered from the profits of the first few stoves sold. These entrepreneurs are provided with an alternative income source as they earn Rs 300 for every stove sold.

To make the raw material affordable for these women, the team came up with new cheaper cement composition for manufacturing, improved the stove designs to remove all redundant parts and started placing bulk orders for raw materials from local suppliers.

This task helped in reducing the selling price of the stove by 41 per cent and increased the margin of profit by 50 per cent per stove.

“Apart from this, to transform women from inexperienced labourers to business owners, we teach them basics in accounting, managerial and other skills. They are empowered greatly in the sense that their confidence levels are high and they become willing to take on risks in their life. These women entrepreneurs are provided with an alternative income source as they earn Rs 300 for every stove sold,” the team added.

'IIMs Will Soon Appoint Directors; JNU Research Seats To Go Up'

<http://businessworld.in/article/-IIMs-Will-Soon-Appoint-Directors-JNU-Research-Seats-To-Go-Up-/11-04-2017-116120/>

Union HRD Minister, Prakash Javadekar, in an exclusive interview with BW Businessworld, answers a range of questions and says that his priority is to improve education in government schools

Union HRD Minister, **Prakash Javadekar**, in an exclusive interview with *BW Businessworld's* Suman K Jha and Sreerupa Sil, answers a range of questions and says that his priority is to improve education in government schools. He also categorically states that research seats at JNU are not being slashed, as is being widely speculated. They, in fact, will go up.

Excerpts:

Can you tell us a bit more about the NIRF rankings?

The National Institute Ranking Framework is an effort towards improving the quality. We have taken series of measures in higher education, one is the NIRF, second is the complete autonomy to the IIMs. We are also looking to expand the educational facility by the Higher Education Financing Agency. We are infusing nearly 3 billion dollar into educational research and infrastructure in the next 3-4 years. We are also putting up the new National Academic Depository. We are improving the quality by bringing in more research, more quality, more innovations and more scholarships.

NIRF is a certification of their rankings in the national institutes; we have nearly 844 universities, we have 38,000 colleges, we have more than 200 institutes of national importance, all these put together, we are planning to rank them. The results will be on the basis of their academics, research, teaching outcomes, peer reviews, all of them put together, we rank them.

Overall it was a grand success, it was the second time you did the rankings and it was really appreciated. Some pointers stood out -- like the universities that have been in controversies, were ranked highly. You said about JNU, that the university ranking was not because of Afzal's slogans, but because of the science research. But JNU has been doing very well in social science research as well...

I will tell you why JNU has stood out. The news coverage (of the controversies) is not the cause. The real cause of ranking is the excellent results in research in many fields that is conducted in JNU as well as their overall academic performance. It's not only about social sciences. JNU is much more than one or two departments.

The President recently said that we should celebrate dissent in universities. Do you think for this government, this is one issue that needs to be seriously looked at?

It is not a university that is dissenting. There are 7000 students, if 700 students are doing something -- that is not the entire university's statement.

There is always a place for dissent, but dissent doesn't allow disintegration of the county. Second important thing is that the protest has to be democratic, confining the diabetic and senior professors and the vice chancellor without any notice

and intimation throughout the night... Is it really justified? The way they had to sleep on the table without any mattress... that was cruel, inhuman, undemocratic protest. Even D P Tripathi opposed it.

This is not the dissent the President is referring to.

Are researched seats being slashed in the Universities?

No, absolutely not. As far as JNU is concerned, there were aberrations going on for years together. The aberration is that, one research guide takes only 4 students or even 2 students, in some universities only 1 student. But to expand our research base we have allowed 6-8 students under one guide for Ph D guidance. Associate Professors can guide 6 students. Assistant Professor can guide 4 students.

Assistant Professors are not allowed to guide Ph D students anywhere in the world, but we allowed it.

But the issue is what is implemented in 843 universities, and if a university doesn't observe it, courts struck it down as you have to observe UGC guidelines.

The regulation is scientifically based for everyone. Can you believe one teacher is guiding 15-20 students in Ph D? Is it a classroom? Ph Ds are one to one -- you have to give quality time. But this is injustice to the Ph D program. So we implemented the regulations which are upheld by academic commodity, upheld by the courts and law and all the 843 universities are implementing it.

One university was carrying out an aberration.

We are now recruiting 300 professors and assistant professors. We are recruiting professors from SC/ST class whose seats were lying vacant for years. We are also recruiting professors from the physically challenged category. Those who talk about social justice were not recruiting from the downtrodden.

So, now, interviews have gone through and within the next 2-3 months all the 300 seats will be filled and I can guarantee of the fact that there will be more research seats than last year.

There are issues like that the IIMs can't even appoint their directors...

Now they will appoint everything. The whole power rests and the buck stops at the Board of Governors. This will be self-appointing in a way and the authority will evolve over the years. Any government interference will go. It's for the first time that India is legislating this historical legislation where we are granting real autonomy. I feel that IIMs should not feel shy of it and they should grab this opportunity and prove their leadership and take their institutes to a new level.

Will the bill be passed in this session only?

I am very sure that it will pass in this session only.

As a citizen of India, I would love my public schools to be the best. On the other hand there have been many steps taken by the CBSE -- one of them was discontinuing the CBSEi curriculum. A lot of students, parents who are outside of India, who used to be the part of the CBSEi curriculum have faced problems. Where are we headed with respect to the future of this?

CBSE will teach the same syllabus we have here in foreign countries also. Additionally they can take up other courses simultaneously -- there is no bar. But CBSE will not have two curriculums because there were aberrations and it was not legal, therefore the system has been withdrawn. We are trying to improve the quality of all schools, CBSE has good quality but there are certain issues and we are trying to deal with it. We have received 3000 applications for CBSE form

school affiliation this year. As far as government schools are concerned, we have already come out with learning outcomes. Now accountability is fixed on parents, teachers, students and organizations running the schools.

We should not have a case where standard six student is unable to read standard two books. Improvement of government schooling is my priority. We want to bring back the children of the poor who are sending their children in private school only to achieve good education. I will guarantee that government schools will be better in the future. We have also mandated 10th board exams which has been received well. All these efforts will improve the schooling.

This budget talks about the National Testing Agency. Can you please tell us a little about the testing agency?

CBSE has 18,000 affiliated schools, instead of concentrating on improving the standards in these schools and maintaining the decorum, decency, they are now engaged in conducting examinations every month. As many as 20 examinations!

There are nearly 11 million students are getting examined by CBSE. So we are now establishing a separate national testing agency, which will conduct all kinds of examinations. Even if any new entrance exam is introduced they can handle it because it will be a specialized testing agency. The program is present in various developed countries and now we are also implementing it.

All engineering and medical entrance examinations will be handled by the body?

As far as the engineering entrance is concerned, we have not yet decided about the centralized exams, but NEET is already there...

The ministry has recommended to AICTE about conducting one test for engineering for the entire country...

This is the proposal of the AICTE council which has not been passed. A working group has been appointed on it. There are factors involved like the fate of NEET. We will first see how NEET exam works and then only we will take a call.

Does the "one test, one nation", theme works well?

It is not a slogan. You have to see the practical view of each examination separately and therefore there is no slogan like it. If it ensures a complete rank and merit order, then it's good. If it has loopholes, then it's not a good arrangement.

What will be the role of CBSE and AICTE with respect to accreditation?

Accreditation is carried out under the UGC by NAAC and NBA. NAAC accredits and assesses the institutes whereas NBA accredits the academic programs. It will continue to improve every day and we want every institute to be accredited. Therefore we have asked the IITs and IIMs to become credit rating agencies like NAAC. I am very sure; soon there will be 3-4 NAAC like institutes which will do accreditation and assessment.

The New Education Policy or the Draft Policy is already there. What is happening on that front?

We will have a committee in place. We got delayed because we got pre-occupied with lot of things, but we will go ahead soon.

A two-year democratic exercise involving feedback from all sections of the society was undertaken.

You have been working on brain drain...

Global Research Interactive Network is one agency that provides better research infrastructure, scholarships and academic guidance here in the country and also urges students to go abroad in during their programs. They can go abroad for 6-8 months in their foreign campus where they will get the best labs and guides, and he can have both the

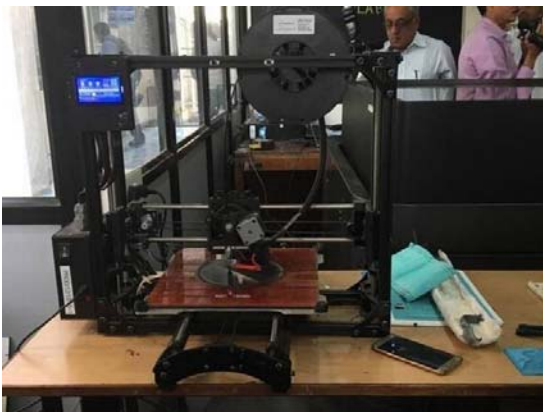
world's experience and still he will be staying here and will do research here and the patents will become the products of India.

The Left has been known for interfering in all the systems, but now the Left alleges that there is RSS interference in the universities. What do you have to say?

Nobody has said anything. We have appointed so many directors all on merit and everybody has appreciated it. There has been no interference of any kind. RSS's vision is very different, they want to build the nation, and their definite interest is education and its quality and national ethos. We as 'swayamsevaks' also are part of the story or narrative. Not that they interfere everyday... no one comes to my ministry and tells me what to do. What we do is on merit.

Rejuvenating one of India's leaders in technical education, via TEQIP

<http://www.thehindu.com/news/national/other-states/rejuvenating-one-of-indias-leaders-in-technical-education-via-teqip/article17927628.ece>



Since its inclusion under TEQIP in 2003, the CoEP's TEQIP audit score has shot up from 5 grade points in 2005 to 9.5 in 2009.

Established in 1854, the College of Engineering Pune (CoEP) is one of the oldest in Asia and one of the hallowed leaders in technical education, harnessing some of India's best and the brightest.

While the CoEP has many firsts to its credit, its inclusion under the Technical Engineering Education Quality Improvement Project (TEQUIP) — supported by the World Bank and implemented by the Ministry of Human Resource Development — has triggered a transformation in the institute's philosophy, making it sharper enabler of innovation.

The TEQIP — the World Bank's longest-running project in the field of higher education — has proved to be the kiss of life for 163-year-old CoEP, rejuvenating the institute and its education standards.

From 2003 onwards, when the college was chosen - through a nationally competitive process - to be one of the 127 engineering and technical institutes supported by the Government of India and World Bank's Technical/Engineering Education Quality Improvement Project (TEQIP), the institute has undergone a major overhaul in its quality of education besides offering a diverse range of programs.

"The Government of Maharashtra had granted us complete autonomy in 2003 as a precondition for participating in TEQIP. We then revamped our curriculum using IIT Bombay as the role model," said Dr. Bharatkumar Ahuja, Director, CoEP, adding that the CoEP's curriculum today changes by around 25 per cent each year.

The practices under TEQIP- Phase II, like introducing a choice-based credit system, making Mathematics courses in all eight semesters in undergraduate and post-graduate programs mandatory and introducing mandatory courses on 'Innovation' and 'Entrepreneurship' in the second and third years has immensely bolstered the students' ability to cope with industry demands.

"For instance, given the growing importance of bio-medical engineering, the institute introduced a new course in biology way back in 2007. Now, IIT Bombay has emulated us by introducing a similar course," he said.

Prof. Ahuja commented that while CoEP has always blazed many a trail in technical innovation, it was the TEQIP (Phase II) that resulted in shoring up the college's Post Graduation education standards. The institute received a massive fund influx of Rs. 25 crore 17.20 crore under TEQIP-II for bolstering their higher education programme.

"We ended up introducing five new programs that eventually resulted in increased student intake," said Dr. Ahuja, remarking that the TEQIP program has led to the empowerment of students and faculty.

Its shibboleth of 'faculty first and students' always' chimes in with TEQIP's aim of producing more employable and higher quality engineers throughout the country.

Before TEQIP, the CoEP had 99 regular faculty members of whom only 11 were Ph.D.'s. Now, the institute boasts 217 member-strong faculty — 118 of whom are Ph.D.'s.

"There are programs at World Bank which endure for barely four years. But TEQIP has transcended time constraints," said Prof. Franciso Marmolejo, Lead, Global Solutions Group on Tertiary Education, World Bank.

Prof. Marmolejo, who is also the World Bank's Lead Education Specialist in India, observed of CoEP that its core virtues of transparency, a participatory approach, a willingness to learn and willingness to share has led to the institute not only bolstering its own standards, but actively taking the lead in mentoring 'weaker institutes' in economically challenged states.

Since its inclusion under TEQIP in 2003, the CoEP's TEQIP audit score has shot up from 5 grade points in 2005 to 9.5 in 2009.

"TEQIP Phase- III, begun recently, will carry forward the quality-oriented reforms initiated under TEQIP-II. Its focus will be on shoring up the quality of engineering education system in India's low-income states. Around 100 government engineering colleges from these states will be paired with well-performing colleges from previous phases of TEQIP, like CoEP," he said, noting that an important feature of TEQIP has been to build bridges between institutes.

"The project has leveraged the expertise of the best in the country — the IITs and IIMs — to improve the academic rigor in TEQIP colleges while also strengthening leadership practices," said Tara Béteille, TEQIP's project leader, adding that this kind of resource-sharing and leveraging was especially vital, given that India has more than 30,000 higher education institutes spread across the country.

IITs, NITs to audit quality standards of it is

<http://www.hindustantimes.com/education/iits-nits-to-audit-quality-standards-of-it-is/story-wBWfvG3su17uWjEnio3eSM.html>



Two of the country's top engineering institutions, Indian Institute of Technology (IIT) and National Institute of Technology – NIT, earlier known as Regional Engineering Colleges (RECs), will now audit the quality standards of technical training and other infrastructure of industrial training institutes (ITIs) in their respective states.

Based on the audit, the National Council on Vocational Training (NCVT) under the Union ministry of skill development and entrepreneurship will award recognition to these ITIs.

In a major policy shift, the ministry has decided that the NCVT will withdraw recognition of ITIs that fail the quality audit conducted by IITs and NITs.

As an industry norm, the government-run organizations, public sector units (PSUs) and large national and multinational companies employ candidates only from NCVT recognized ITIs.

Therefore cancellation of NCVT recognition could severely impact the probable employment of the trainees of such ITIs in reputed organizations and their career in long run.

India has a total of about 13,000 ITIs. Of this, about 9000 are private and 4000 are government-run.

Earlier, the recognition to the ITIs was used to be accorded by the NCVT on the basis of the audit report of Quality Council of India (QCI).

KP Krishnan, secretary, ministry of skill development and entrepreneurship told HT that the government was withdrawing the role of the QCI in deciding the quality standard of ITIs.

“The top priority of the ministry is to strengthen the regulatory mechanism in the ITI structure to improve the employability of the trainees. For this, we have decided to change the norms for the accreditation and recognition of it is,” Krishnan said.

The ministry has also decided to accord powers to state government for granting accreditations to the ITIs. It was earlier done by the directorate general of training on the basis of the audit report of the QCI.

Krishnan said that the skill development ministry has decided that the respective state government's state council for vocational training (SCVT) will be allowed to accord accreditation.

However, the ministry will have the power to cancel the NCVT recognition for the want of which the ITI might lose its significance in term of employability of its students.

"The ITI may get accreditation from state government/SCVT but if it fails on the audit of the third party which is IIT/NIT, NCVT will withdraw its recognition. Central government, PSUs and MNCs and other large corporation employ only NCVT products," Krishnan said.

The NCVT had earlier cancelled the license of many under-performing ITIs but they moved courts against it. There are about 700 cases pending in various courts.

"NCVT will not cancel their license but withdraw recognition," said the secretary.

Professor V. Krishna Nandivada from IIT Madras won Cray's Dr. A.P.J Abdul Kalam HPC Award – 2017

<https://indiaeducationdiary.in/professor-v-krishna-nandivada-iit-madras-won-crays-dr-p-j-abdul-kalam-hpc-award-2017/>



Dr. V. Krishna Nandivada, Associate Professor, Department of Computer Science and Engineering, IIT Madras, has been awarded with Cray's Dr. A.P.J. Abdul Kalam HPC Award (in the young researcher category) in recognition of his contributions towards High Performance Computing (HPC) field in India.

The award was presented on 8th April 2017 in New Delhi. The award selection was done by a jury headed by Prof. N. Balakrishnan, Professor of the Department of Aerospace Engineering and Supercomputer Education Research Centre (SERC), Indian Institute of Science (IISc) and a Padma Shri awardee.

Professor V. Krishna Nandivada has developed many new analyses and optimizations to help efficient execution of task-parallel programs on HPC systems.

High Performance Computing (HPC) uses parallel processing for running advanced application programs in which several programs/tasks are run concurrently, instead of one after the other. This results in increased efficiency, reliability and speed.

“HPC is a crucial area that impacts wide variety of departments starting from biotechnology, physics, chemistry, geotechnology, aerospace engineering, mechanical engineering and so on. Our group focuses on developing new analyses and optimization techniques to speed up HPC applications and in the process helping other sectors utilize this computing power to efficiently solve large computational problems,” says Dr. Krishna.

The priority areas in HPC, he says, are: encouraging more systems research, tools and application development, and educating students on building and using HPC applications. Dr. Krishna’s research has received funding from IBM, Department of Science and Technology (DST), and the Department of Atomic Energy (DAE) as well.

Mumbai has potential to generate 1,724 MW solar power, says IIT Bombay Report

<http://indianexpress.com/article/cities/mumbai/mumbai-has-potential-to-generate-1724-mw-solar-power-says-iit-bombay-report-4608111/>

Researchers found that Andheri West area (K West Ward) of the city has the highest potential for solar power generation, followed by Borivali (R Central Ward).



If rooftop solar panels are installed in residential buildings alone, the city can generate as much as 1,300 MW of energy. Representational Image.

Mumbai holds the potential to generate close to 1,720 MW of solar energy, according to a report released by the Indian Institute of Technology (IIT), Bombay. The report, that gauges the solar energy potential of Mumbai, found that if solar panels are installed atop buildings, the city could generate 1,724 MW energy. If rooftop solar panels are installed in residential buildings alone, the city can generate as much as 1,300 MW of energy.

The state distribution company, MSEDCL, recorded a peak consumption of 2,811 MW last month for Mumbai and Reliance Energy has projected a demand of 1,700 MW.

Of this demand, 1,700 MW can be met through solar energy, a cleaner form of energy compared to coal-based power plants, if the city is able to achieve the potential given in the report.

The report on ‘Estimating the Rooftop Solar Potential of Greater Mumbai’ was prepared by IIT-B’s National Centre for Photovoltaic Research and Education and Centre for Urban Science and Engineering in association with the Bombay section of the Institute of Electrical and Electronics Engineers.

The Observer Research Foundation, Mumbai and Bridge to India, too, contributed to the report released on Monday.

Researchers found that Andheri West area (K West Ward) of the city has the highest potential for solar power generation, followed by Borivali (R Central Ward).

Industrial buildings can generate 223 MW and educational amenities have the potential to produce 71 MW of power.

The report also suggests that if the potential was realised into installations, grid management, too, may be possible. In such a case where the potential is realised, the incremental demand for power during peak hours (during the day) can be met through the solar panels.

Rajeev Kapoor, Secretary, Ministry of New and Renewable Energy, who released the report, said in case of rooftop installations, technology was not a problem but economic viability was.

A ground survey by the researchers also found that 37 per cent of the respondents lacked awareness about solar panels and, hence, were not interested in installing them. A little over 25 per cent of the respondents also said installation costs were high and, hence, they were not interested.

Ajay Mathur, Director, The Energy and Resources Institute, too, said the government should work towards making solar panels the natural economic preference for users.

A TERI report released earlier this year estimated that beyond 2023-24, new power generation capacity could be all renewables, based on cost competitiveness of renewables as well as the ability of the grid to absorb large amounts of renewable energy together with battery-based balancing power.

Health care start-ups taking shape at IIT-H

<http://www.thehansindia.com/posts/index/Education-&-Careers/2017-04-11/Health-care-start-ups-taking-shape-at-IIT-H/292740>

Students come up with start-up ideas for neo-natal care and stroke rehabilitation

The first batch of Fellows, passing out from the Fellowship programme offered by the Indian Institute of Technology, Hyderabad's Centre for Healthcare Entrepreneurship (CfHE), are slated to establish a start-up that will aid in neo-natal care delivery for the weaker sections of the society. A second team is planning a start-up that will help rehabilitate stroke victims who have lost the use of limbs.

This has been made possible by the unique nature of this Fellowship, which is a one-year, fully-paid fellowship training program that offers not just an academic experience but practical skills, support, R&D and access to investors, all of which are vital for an entrepreneur to succeed, shares the students.

The unique nature of this Fellowship is that it also puts students in touch with investors and venture capitalists who will fund their start-ups if they come up with a viable proposal. The CfHE itself was conceived by two U.S.-based IIT-Bombay alumni's who are with successful track records in technology and business.

Pratyusha Reddy, one of the six CfHE fellows in the first Batch who are going to pass out this summer, is currently working in the neonatal monitoring space for low-resource settings. She says clinical immersions were a potent means of connecting to reality and threw light on the existing gaps in the healthcare scenario.

On asking about the funding for their start-ups, students say it is yet to be finalised and declined to reveal further information at this initial stage.

Speaking about the incidents that touched, Pratyusha says “It instilled in us (students) a strong belief that frugal innovation can go miles in improving the healthcare system of India.

For instance, during our clinical immersion, we saw incidents where a 10 year old child with pneumonia was brought into the ER with extreme breathlessness and witnessed how much that child struggled to breathe even as the nurses in the emergency care were trying ease his pain and establish oxygen supply, just because he belonged to a low income family which did not have the means or knowledge about detection of pneumonia early on and seek treatment.

We saw a 40 year old man who met with a small cycle accident suffered a minor wound and just because it wasn't treated properly due to lack of resources and knowledge about timely intervention, it led to a major infection and he lost his life in the battle against it. This wouldn't have ever happened in a developed country.”

Speaking about the CfHE fellowships, Prof Mohan Raghavan, Assistant Professor, Department of Biomedical Engineering and Co-Head CfHE, IIT Hyderabad, said it is a world-class program for aspiring healthcare entrepreneurs and currently one of India’s most competitive and coveted fellowships.

The full time in-residence fellowship and training will be strongly ‘hands-on’. The fellowship is designed as a simulated entrepreneurial journey with clinical immersion, needs analysis and design, ideation, business model development and culminates in the pitch to investors.

“To be a fellow at CfHE requires a completely different set of skills and outlook. Candidates may come from any background, medicine, engineering, science, design or management, but the ones who manage to mend their expertise in their own fields with the passion to change the way healthcare is delivered are usually the most successful in the fellowship.

A keen ability to observe and then get to the essence of the problem are invaluable skills in this pursuit” shares Prof Mohan. The objective of the fellowship is three-fold: to foster creativity and entrepreneurship in the healthcare sector in order to solve healthcare needs of our communities and help universalise healthcare products and services by increasing reach and affordability.

A big draw of this Fellowship is that it will provide exposure to local and global Venture Capital (VC) partners during training and incubation. The trainees would be given an opportunity to pitch to investors at the end of the Fellowship.

The CfHE’s fellowships are dedicated to the mission of “Healthcare for all”, in line with “Startup India,” It has been conceptualized, is administered and mentored by a global team from India and the U.S, including Silicon Valley entrepreneurs, academics from Stanford University, biomedical industry professionals, and some of India’s well-known healthcare NGOs.