

NOTICE INVITING TENDER

Vigyan Prasar, an Autonomous Body under Department of Science & Technology invites Tenders for the following work:-

S No.	Name of Work	Tender Fee	EMD	Last date for Submission
1	Dubbing of total 39 episodes of two science serials into various Indian languages	Rs. 500 for each language	Rs. 25,000/	Jul 14, 2014

**Vigyan Prasar,
Department of Science & Technology
REQUEST FOR PROPOSALS FOR UNDERTAKING DUBBING OF
VIDEO/TELEVISION SERIALS**

No: VP/19/24/Dubbing/13-24

11th June, 2014

Sub: Invitation of proposals for dubbing of total of 39 episodes science serials in to various Indian languages

Vigyan Prasar, an autonomous organisation under the Department of Science and Technology, New Delhi has been undertaking telecast of science serials through Doordarshan. One serial on the theme of "**A Question of Science (26 episodes) and another is 'Maths Factor (13 episodes)**" have been produced by Vigyan Prasar and the same are proposed to be dubbed into various Indian languages. Proposals are invited from various agencies for undertaking the dubbing work on rate basis.

Scope of work

Dubbing of the 39 episodes of two serial "**A Question of Science (26 episodes) and another 'Maths Factor (13 episodes)**" in 10 Indian languages. Each episode of the serial contains animation, presenter, interviews & Voice Over. Dubbing of each of these should be appropriate. The dubbed version should have technical standards specified by and to satisfy Doordarshan.

Duration: Each episode is of maximum 25-30 minutes duration

Languages in which to be dubbed: Punjabi, Urdu, Gujarati, Marathi, Malayalam, Tamil, Telugu, Oriya, Bengali, and Assamese.

List of deliverables for each episode: After completion of the dubbing work following materials will be delivered to VP for each episode:

- a) Telecast master DVC pro – 50 - Two copies
- b) BETA master - One copy
- c) DVD copies - Ten copies
- d) VCD copies - Ten copies
- e) Inlay card for the DVD/VCD design (in psd format) and jewel case design (in psd format)
- f) Hard copy of the final script in print or in ms- word or rtf file format in CD format.

Terms and Conditions:

- 1 Script in English and Beta master would be provided by VP. The agency selected would have to engage competent and suitable script writer to translate the script from English for dubbing.
- 2 The translated scripts would have to be submitted to VP or VP nominated expert. The dubbing would have to be undertaken only on written approval of the script from the expert.

- 3 The dubbing should be of high quality meeting the industry standards. Competent and approved voices should be used. Dubbing should be lip-synced to the presenter/ actor and on screen voices. The language should be pleasing, not heavily accented, and use more commonly spoken dialect in that language. The selector's opinion is final in this regard.
- 4 Consolidated payment of 20,000/- per episode (for each language) + service tax as applicable will be made. Payment will be released on pro rata basis for the episodes for which all deliverables are delivered, subject to deduction TDS if any.
- 5 Consolidated rate includes charges for script, production with good voices, soft and hard copy of language version scripts, one copy of BETA master, two telecast copies on DVC pro-50, TEN copies of DVD, TEN copies of VCD, CD (DVD) label design in jewel case etc. Production includes appropriate dubbing VO, ASTON (captions) etc. Consolidated payment is towards all aspects of dubbing and deliverables. Trimming of the episodes may be required, such as deleting the contest winners from the Hindi master or inclusion of title montage/ break bumpers in the language concerned.
- 6 The dubbing work in all respects should be completed within 6 months from the date of issue of work order. Failing which, a penalty of 0.5% of the total value of the project will be charged as penalty for every week of delay, upto maximum of 5% of the total value of the project.
- 7 **Dubbing in each language would be considered separate work assignment. Maximum of dubbing in THREE languages will be awarded to a producer / firm at a time.** However the application may be made for as many languages as desired by the firm/agency.
- 8 In case of non-completion of work within stipulated time period, the work order would be cancelled and liquidated damage charges will be levied upon as per Govt. rules.
- 9 No advance payment would be made. However, the firms may make claim on prorata basis on completion of episodes and submission of deliverables to the satisfaction of VP.

Selection procedure

The firm/agency/producer would be selected based on the sample dub script submitted and on the profile and past experience. A committee of experts would rank the applicants for each language and selections would be based purely on merit. If required, short listed applicants may be called for a presentation before the committee. No recommendations would be entertained.

Application procedure

Interested firm/agency/producer may submit their application along with

- i) A pilot script for one episode for each language applied for (based on the master script in English enclosed herewith)- **FOUR copies to be provided.** (Without company name and logo in script)
- ii) Profile/ CV of the firm/producer respectively. The profile should indicate the past experience in undertaking such work, facility/equipment available etc.
- iii) A DVD/VCD copy of any ONE dubbing work (VLC format) undertaken by the agency/firm (ensure DVD/VCD play properly). Incomplete application would be rejected.
- iv) Application fee Rs. 500/ in the form of Demand Draft for each language separately.
- iv) EMD Rs. 25,000/ in the form of Demand Draft irrespective of no. of languages applied for.
- v) Enclosed format is to be used and applications not in the format would be rejected.

NOTE: Following are to be submitted as part of proposal:-

- 1) Application in format – Four copies
- 2) Translated sample script (FOUR copies)
- 3) Sample of dub work undertaken by the agency in VCD/DVD format – only one copy

Last date for submission proposal is Jul 14, 2014 (5 pm). Postal delay will not be considered. Separate application **is needed** for applying for more than one language. **Translated script for each language for which proposal is made should accompany the application.**

The application may be submitted in a **sealed cover** addressed to '**Registrar, Vigyan Prasar, NCMRWF Campus, A50, Phase II Sector 62, NOIDA 201309**' and the envelope may be marked '**Proposals for dubbing of Two Science serials in ABC (language (s) for apply) language**' **Unsealed and unmarked covers would be rejected.**

With warm regards,

(Registrar)

Encl: 1) Application format

2) Script in English for one episode

VIGYAN PRASAR

Format for application for undertaking dubbing work

1. Name:

A. Proposer : _____
B. Company: _____

* Payments would be released in the name of company

2. Contact Information

2.1 Address: _____

_____ Pin _____

2.2 Telephone:

Office 1 : _____

Office 2 : _____

Mobile : _____

Home : _____

Fax : _____

Email : _____

3. Educational Qualifications:

4. Proposer's Category (Please tick only ONE, which is most appropriate/ applicable to you)

- | | | |
|--------------------------|-----|--------------------|
| <input type="checkbox"/> | 4.1 | Production House |
| <input type="checkbox"/> | 4.2 | Freelance Producer |
| <input type="checkbox"/> | 4.3 | Subject Expert |
| <input type="checkbox"/> | 4.4 | Institution |
| <input type="checkbox"/> | 4.5 | Others ... |

Please Specify _____

5. Brief Description of the Proposer's Activities (Attach Separately)

6. Experience in the production of Science Communication/Education, if any (Attach Separately)

7. Facility/Equipment available (Attach separate sheet)

8. Please tick languages for which you would like to undertake dubbing work

Sl No	Lanugage	
1	Assamees	
2	Bengali	
3	Gujarati	
4	Malayalam	
5	Marathi	
6	Oriya	
7	Punjabi	
8	Tamil	
9	Telugu	
10	Urdu	

(Tick the applicable boxes)

Applied for total Languages

*** NOTE: Maximum of three languages would be assigned to one firm/company/producer at time. However the application may be made for as many languages as desired by the firm/agency.**

9. One Sample Programme

(Tick the applicable boxes)

DVD	
CD	

Media

If, any other, please specify:

The material submitted as “sample” will not be returned.

I/We have enclosed (1) proposal in the format (2) sample dub work carried out earlier (3) sample script based on the material given by VP in Number of languages.

SIGNATURE OF THE PROPOSER

Date

Place

Enclosures:

- 1 Sample VCD/DVD
- 2 Sample dub script in language (enclose FOUR copies)
- 3 Profile/application format – Four copies
- 4 Application Fee
- 5 EMD

A Question of Science

Episode - 1

Acoustics Technology in Conservation of Ganges River Dolphin

Opening Teaser :

The natural world isn't just a world of sights...

It's also a world of sound.

This world of sound contains secret languages of many living species...

And for some like the Gangetic River Dolphin they're critical to survival.

As wildlife conservationists strive to save it, cutting edge engineering lends them an ear.

But how can acoustics technology give this endangered species a voice?

That's a question of science!

Episode Title: Acoustics Technology in Conservation of Ganges River Dolphin

VO 1:

The Indian Institute of Technology at New Delhi is a hub for India's sharpest minds. They're dedicated to resolving the country's most pressing technology needs.

One group in particular has been at the forefront of India's naval defence technology for the last 3 decades.

The group is led by Professor Rajendra Bahl: an Underwater Acoustics expert.

This gives him special insight into how sound behaves under water.

VO 2:

What makes sound behave so differently underwater?

Sound is a wave that uses particles of matter: be it solids, liquids or gas to vibrate and move through.

We hear things when sound waves travel as air vibrations and reach our ears, vibrating our eardrums & inner bones.

But things change when the medium changes.

Sound travels 4.3 times faster through liquid than air, making its journey far more speedy & efficient.

And while we humans may not be able to hear well because our ears are designed for airwaves...

Underwater sounds can be used in many other ways – not just to hear, but to see!

That's where underwater acoustics experts like Prof. Bahl use strategies like Sonar. He has dedicated his life to building navigation & communication systems for naval vessels.

Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group, IIT - Delhi :

“One of our initial successes was in 1984 when we improved a Russian origin sonar system and which gave much better performance. This was very well received by the Navy. Since then we’ve been working on several projects of naval interest on sonar technology, underwater systems and communication systems.”

VO 3:

Sonar stands for Sound Navigation & Ranging. Simply put it involves measuring sound waves to detect the location, dimensions and movement of objects.

There are 2 ways to do this.

Actively, by sending out sound waves and allowing them to reflect off objects in their path. The time & manner in which the sound waves are received back, gives a measure of the target object.

The other method is passive. It is simply measuring any sound waves coming from surrounding waters.

Sonar is a precise way to map underwater regions and navigate safely through them.

By using sonar, one can create a picture of sounds, where direct sight is difficult. **

VO 4:

Over the last few decades, Prof. Bahl & his IIT team have won many accolades in the field of defence.

However in recent years, focus has widened from matters of national security to matters of natural security.

It all started in 1999, when Professor Bahl was invited to Japan, by a professor at the University of Tokyo, Tamaki Ura.

But instead of collaborating on a defence project, his expertise was needed for marine conservation.

It was a project studying the songs of the humpback whale.

Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group, IIT - Delhi :

“It was the first time I was exposed to this kind of requirement. We have to use underwater acoustics technology just like for submarine detection technology. To listen into the sounds and to segregate them from interfering sounds from other ships, other marine mammals or animals and to recognize those songs and then say that, from what direction those sounds are coming.”

VO 5:

Profs Bahl & Ura followed up their work on the humpback whale with the acoustic study of the Chinese River Dolphin.

It was a species that was already extinct – a fate that was staring another endangered species in the face: the Indian River Dolphin.

Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group, IIT - Delhi :

“So that idea was incubated in our minds. In 2004 when I finished my 2 year with Prof. Ura, he said we must establish a programme of research for the Indian river dolphin.”

VO 6:

The Indian River Dolphin is quite different from its marine counterparts.

It's a unique aquatic mammal, evolved to navigate the rivers muddy water. It is completely blind...and much like naval submarines – it uses sonar to navigate & communicate.

But Prof. Ura & Bahl weren't the only ones with river dolphins on their mind.

Back in India, conservationists had a similar agenda along the Ganga.

VO 7:

The iconic river Ganga occupies a central role in the Indian life.

It has poured life into the fertile plains of Northern India and millions find sustenance – both spiritual & material – on its banks.

In recent decades, it's also become the most polluted & endangered river in the country.

Today, it's posing a serious threat to its non-human inhabitants, especially the Gangetic River Dolphin.

And so conservationists like Dr. Sandeep Behara of the World Wildlife Fund or WWF-India have put in long years protecting it.

He's led an active campaign along the Gangetic banks of Narora in Uttar Pradesh.

Byte, Dr. Sandeep Behara, Conservationist, WWF - India:

“The Ganges river dolphin is one of the 4 true fresh water dolphin found in the world. Basically this Ganges river dolphin is found in India, Nepal, Bangladesh and in Ganga and Brahmaputra river basin.”

VO 8:

Unlike Marine dolphins, the Gangetic river dolphin has evolved into a blind mammal that navigates through the near opaque and muddy Ganges waters.

It's the largest mammal in the Ganga and occupies top spot in this underwater eco-system.

But this esteemed status has not prevented its population from dwindling.

At one time, these dolphins numbered in the thousands.

Today, they've dwindled to mere hundreds...

VO 9:

What has caused this devastating loss?

Large scale pollution & dumping along with decreasing volumes of water have depleted its numbers.

It has left conservationists asking: What will the river look like if the Gangetic river dolphin is not saved?

Byte, Dr. Sandeep Behara, Conservationist, WWF - India:

“If this animal is, you know, cut off from the food chain then the whole eco-system will be affected. It is similar to that of the tiger. If you are conserving tiger that is only to save the forest eco-system. That’s how we describe this river dolphin as the tiger of the river.”

VO 10:

In an effort to save the river dolphin, conservationists have tried to visually track it.

But that hasn’t yielded very useful information.

Byte, Dr. Sandeep Behara, Conservationist, WWF - India:

“This dolphins comes out of the water in every 3-7 minutes to breathe. They are air breathers. That is the only time when you can watch them and predict their behaviour, whether they are trying to feed or migrating or anything we are totally clueless about what they are doing underwater.”

VO 11:

Thanks to the sediment thick water, optical tracking of dolphins is impossible.

The question arises: How does one track an animal that can’t be followed visually?

The answer, in a word: Sonar.

VO 12:

Back at IIT Delhi, a Japanese team has arrived from Tokyo.

They represent the University of Tokyo and tech company KDDI.

They’re collaborating with Prof. Bahl’s underwater acoustics group to track the Ganga’s most endangered animal – using sonar.

Byte, Prof. Tamaki Ura, University of Tokyo, Japan:

“We are willing to study the Ganges River Dolphin’s underwater behaviour in high turbidity water and also their acoustic performance. We hope the data from our system will be helpful for establishing conservation programme of Ganges River Dolphin.”

VO13:

The Indo-Japanese collaboration has custom-designed gadgets to record the dolphin’s ultra high frequency sounds.

What kind of sounds are these ?

How are these different from human sounds?

While the human range of hearing is between 15 Hertz-20 Kilo Hertz,(I Think it is 20 Hz to 20KHz....Please cross check once) river dolphin frequencies are as high as 50 Kilo Hertz.

Blind underwater, dolphins use these high frequency sounds for active sonar or echolocation. In echolocation, dolphins emit high frequency sounds as 'clicks' that move through the water. These clicks reflect off any object placed in their path. The received signals help dolphins understand the shape, size, distance and direction of the object's location.

So how does Prof. Bahl's underwater acoustics system capture this sonar?

The system consists of 6 hydrophones or underwater microphones that can pick up clicks.

This hydrophone array – 4 in one plane and 2 in another – will be suspended from a boat.

It will track any high-frequency sound emitted by passing dolphins.

These sounds will be recorded, processed & analysed by cutting-edge digital devices brought by the Japanese team.

Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group, IIT - Delhi :

“So we have as I said 2 arrays for monitoring dolphins. This is no. 1 system, this is no. 2 system. So there is two systems being tested and there's a wireless LAN on which they can talk to each other on these systems sitting on the bank of the river. So they're testing those configurations.”

“We also have another system which is the acoustic imaging system.”

“Like the TV camera that you're using is actually a visual image, its an optical image with an optical lens. Whereas this is an acoustic camera. It uses acoustical lens. So it uses sound to do the imaging. We project sound underwater and we get reflections from the animals and fish and whatever is there in the water. They are ultrasonic images just like medical ultrasound for looking at organs in the human body.”

VO 14:

The acoustic camera is tested inside IIT's water tank.

It records underwater sounds and converts acoustic signals into visual images.

But why not just use a normal underwater camera?

Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group, IIT - Delhi :

“We cannot see in the Ganges under water more than few centimeters because the water is very muddy. So, whereas with the acoustics we can monitor dolphin sounds, passively we listen to the sounds and with this we can look at the dolphins, so to say,

‘Look’ in inverted commas with the acoustic camera.”So it’s a unique, pioneering experiment, this time that we’re going to do in Narora.”

VO 15:

Every lab simulation and last minute check has led up to this moment: The early morning departure to Narora in Uttar Pradesh.

Over the years this WWF-India office has become the headquarters for the national campaign to save the Gangetic River dolphin.

Since 2008, it’s included the Indo-Japanese underwater acoustics programme – the first of its kind to observe the endangered species’, world of sound.

VO 16:

The team’s first task: Setting up the 6-hydrophone array and its framework.

Once assembled, it’ll be mounted on 2 custom-designed boat rigs, which will allow it to pick up dolphin signals from different locations along the river.

The boat rig will sail to the desired spot, where dolphins are likely to be found. Here, the hydrophone array will be inverted and lowered into the water.

It is now ready to track any dolphin movement through the water using sonar.

So how does this array give us the dolphin’s actual location?

When a dolphin approaches near, it throws out ultra-high frequency sound waves, which propagate through water and reach the hydrophones.

Here, each pair of hydrophones: 2 pairs in the horizontal and 1 in the vertical plane, mark the source of the sound waves.

Calculating the angular difference between the various readings, give scientists the exact location of the dolphin – how far it is from the array and how deep it is from the surface of the water.

And so, as the dolphin moves through the water, the hydrophone will track its pathway by reading its sonar at various points.

So far, scientists have only seen dolphins as blips on a screen...

But this time the team is adding a new dimension: 3 dimensions to be precise!

VO 17:

Since 2008, the Indo-Japanese collaboration has added newer devices to observe dolphins underwater. So, what’s on the anvil for this trip?

Instead of a single acoustic camera, this time, there are two.

When the dolphin swims past the underwater camera, it encounters acoustic or sound waves in the horizontal plane.

This allows the camera to track the dolphin’s length as it moves across.

But what will happen if we rotate the camera by 90 degrees?

It will give out acoustic signals in the vertical plane.

Now when the dolphin swims past, the camera will record its height.

At Narora, scientists will place 2 cameras at a 90 degrees angle. This will ensure that as the dolphin encounters their sound waves, images will be captured in the horizontal & vertical plane.

This will give them both the length and height of the dolphin.

VO 18:

But not all the gadgets are as complex or hi-tech.

Engineers have also gone low-tech with a compact dolphin detector kit.

Such simple ideas have empowered conservationists, who can now observe the endangered species closely, yet passively.

Prof. Rajendra Bahl Demo of Dolphin locator:

“The entire unit is totally portable so if I switch it on and if there’s a dolphin around, you’ll hear it audibly on the speaker and so we can be cued to telling us, there is a dolphin in this area and then we can localize it using the hydrophone array which is in front of the boat.”

VO 19:

So what exactly have we learnt in the 5 years since the underwater acoustics programme first began?

Observations have thrown open the previously unknown habitat of the Gangetic River dolphin.

For the first time we are gaining the insight into how they behave, communicate and interact with their environment.

Researchers are learning how river dolphins strategize using sonar in 3 phases :

First, for searching & identifying objects.

Then, for planning an approach route.

And finally, for terminating their mission.

Researchers also have new insights about the dolphin sounds. They have mapped different types of ‘clicks’ from time intervals ranging from 10 to 100 milliseconds.

They’ve discovered that sonar is used differently by young dolphins as compared to adults.

In another unprecedented discovery, the array has even stumbled upon a nursery for baby dolphins.

Byte, Dr. Sandeep Behara, Conservationist, WWF - India:

“2 years back, there was a case when we could manage to locate a nursery of this dolphin near the village Karnawas, The mother nursing the young dolphin for around 3 months of its time , feeding the milk in regular intervals .So we could manage to see how this mother is caring the child, the young calf, in a particular area and after 3 months, the calf started moving from that place with the mother.

VO 20:

The underwater acoustics programme has opened a portal into the river dolphin’s world.

Learnings from centres like Narora are a big boost for dolphin conservation.

They’ve inspired WWF-India to design & activate campaigns based on its findings

In recent years, such ‘Save The Ganga Dolphin’ projects have had a real impact on conservation efforts.

Byte, Dr. Sandeep Behara, Consevationist, WWF - India:

“The result was fabulous. I was thinking that we will not manage to get this sort of good population in the state of Uttar Pradesh. The population was around 671 in the state of UP, which is quite encouraging.

VO 21:

And its attracting the interest of the researchers from around the world.

The next big challenge for the Indo-Japanese collaboration was how to create world wide access to this tiny boat rig at Narora in Northern India?

So in another first, this project allows them never-before-access to real time dolphin data.

Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group, IIT - Delhi :

“That is the first time we are doing realtime monitoring and sitting anywhere in the world we can monitor and even command in a reverse manner if you want to change any parameters of this electronic system.

VO 21:

Being a pioneering project not just for India, this project has inspired others across the globe.

Byte, Prof. Tamaki Ura, University of Tokyo, Japan:

“We built this kind of system in many rivers. For example, Indus river, Mekong river, Irawaddy river. The number of researchers is very limited. So it is necessary to have a network of researchers in the world. I suppose at Narora, this area is the key centre of such kind of networks.”

VO 22:

But it's not all about science saving the animals.

It's also about animals inspiring science.

**Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group,
IIT - Delhi :**

“This is a most apt species to observe or learn from in terms of bioacoustics because they do everything using sonar and we are able to observe them. And so I think there's a lot of scope to adapt their bioacoustics technology in a way in manmade technology for observation of environment, we're using sonars.”

VO 23:

And so where modernity has taken away from nature, it can also give back.

**Byte, Prof. Rajendra Bahl, Head, Underwater Acoustics & Signal Processing Group,
IIT - Delhi :**

“This is one example only, there can be hundreds and thousands of examples where science can come to the rescue because diversity is the essence of life on this earth and so we should live in a manner that is amenable and sustainable. Not only for human beings but also for the marine life around.”