

**GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
LOK SABHA
UNSTARRED QUESTION No. 3253
TO BE ANSWERED ON 13/03/2020**

RESEARCH PROGRAMME ON INDIGENOUS COW

**3253. SHRI RAVNEET SINGH BITTU:
SHRI ANUMULA REVANTH REDDY:
SHRI UTTAM KUMAR REDDY NALAMADA:**

Will the Minister of SCIENCE AND TECHNOLOGY विज्ञान और प्रौद्योगिकी मंत्री be pleased to state:

- (a) whether the Government has any proposal for research on cow urine and dung in order to verify its effectiveness in curing diseases or its uses and if so, the details thereof;**
- (b) the details of the research units, departments and Ministries and foreign institutions to be involved in this research programme;**
- (c) whether it is a fact that start-ups working in the field of by-products like bovine and urine are eligible for funding by Government and if so, the details thereof along with the funds allocated for the purpose and if not, the reasons therefor;**
- (d) whether there has been any past research in this regard and if so, the outcome thereof;**
- (e) whether the Government has taken cognizance of the appeal of several Indian scientists to the Government to withdraw funding from the research to use cow dung, urine and milk for medicinal purposes and if so, the details thereof; and**
- (f) the reasons stated by those opposing the funding of such research and the reasons stated by the Government for continuing it?**

ANSWER

**MINISTER OF HEALTH AND FAMILY WELFARE; MINISTER OF SCIENCE AND TECHNOLOGY; AND MINISTER OF EARTH SCIENCES
(DR. HARSH VARDHAN)**

**स्वास्थ्य और परिवार कल्याण मंत्री, विज्ञान और प्रौद्योगिकी मंत्री और पृथ्वी विज्ञान मंत्री
(डॉ. हर्ष वर्धन)**

(a) & (b): Yes, Sir.

- Ministry of Science & Technology (S&T) has taken an initiative to launch a National Program on “Scientific Utilization through Research Augmentation-Prime Products from Indigenous Cows: SUTRA-PIC India Program” as a collaborative program of Department of Science & Technology (DST), Department of Biotechnology (DBT), Council of Scientific & Industrial Research (CSIR), Indian Council of Medical**

Research (ICMR), Indian Council of Agricultural Research (ICAR), Ministry of New and Renewable Energy (MNRE) and Ministry of AYUSH.

- This coordinated program aims to work towards convergence of expertise, resources and funds to meet common objective – Scientific research on prime products and its application in health, agriculture, nutrition etc. It provides a platform to take research towards its logical conclusion with scientific validation and certification of utility products.
- DST is the nodal implementing department, while, IIT Delhi the Coordinating Institute, and 50 networked scientific Quality Control labs based on their capacity for the work.
- In this endeavor, project proposals have been invited through Open call on DST's website from scientists/ academicians from Research Institutions, Academics, S&T capable voluntary organizations (NGO's) active in India to carry out R&D work, technology development linked to capacity building at local level covering following thematic areas which also include research component on cow urine and dung in order to verify its effectiveness in curing diseases or its uses:-
 1. Scientific research on uniqueness of Indigenous Cows.
 2. Scientific research on *Prime-products from indigenous cows* for medicine and health; agricultural applications; food and nutrition and for *indigenous cows* based utility items.

(c) Start-ups working in the field of by-products like bovine and urine may also apply for funding in collaboration with research institutions/S&T capable NGOs under the proposed program. Estimated funding of the program by Government for three years' period works out to Rs. 98 Crores.

(d) Council of Scientific & Industrial Research(CSIR) through its constituent laboratories, namely CSIR-Central Institute of Medicinal & Aromatic Plants (CSIR-CIMAP), Lucknow and CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) Nagpur, and ICAR-IVRI, Izatnagar have conducted basic research on various biological activities of cow urine, while, CSIR-CIMAP has carried out research on the bio-enhancing properties of distillate of cow urine (Kamdhenu Ark) on anti-infective and anti-cancer agents. In these experiments, it was found that the cow urine distillate at very low concentration enhanced the activity of Rifampicin and Ampicillin against Gram-negative and Gram-positive bacteria. Further, the activity of anticancer drug Taxol (Paclitaxel) was also found to be enhanced in the presence of this cow urine distillate. Three international patents have been granted.

Besides, Central Council for Research in Ayurvedic Sciences (CCRAS), Ministry of AYUSH has conducted a scientific study (safety/ toxicity and biological activity) on PanchgavyaGhrita, an Ayurvedic formulation in which Cow urine is one of the ingredients.

(e) & (f): The Government has taken cognizance of the appeal of Indian scientists opposing funding of such research. Concerted efforts are made to fund and support important research programs/projects, both in basic and applied research to benefit the society at large. In this process, it is equally important to encourage research on our ancient science and belief with scientific validation which have been neglected so far. In this regard SUTRA-PIC program has been evolved through multi-stakeholders' consultative process to study our own system and validate and improve.

Reasons stated by those opposing the funding of such research under proposed SUTRA-PIC program, and the reasons by the Government for continuing it may be seen at Annexure I.

Annexure referred to in reply to part (e) & (f) of Unstarred Question No. 3253

Concerns raised by Indian Scientists to withdraw funding from the research to use cow dung, urine & milk for medicinal purposes	Reasons for continuing SUTRA-PIC program by the Government
'Unique' and 'special' qualities of Indian cows (not clear which particular breed)	<p>Multifarious reasons. They are disease resistance, heat and drought tolerance, adaptive to local conditions, source of clean energy, draft power (save fossil fuel +GHG), human nutrition, gainful livelihoods (rural based bio economy) and for organic agriculture. Source of high-quality Milk with 80% A2 type casein which is reported to protect from various diseases, which also need to be validated.</p> <p>Indian Indigenous cattle are reported to be robust and resilient. In this endeavour, modern scientific methods like metagenomic and proteogenomic studies will be used for understanding the genome of key indigenous varieties and decoding them for gene specific action. Such scientific study is extremely important for conservation of biodiversity and development of the indigenous cattle as well.</p>
Cow product-based treatments for a range of exotic disorders proposed in the call, seems to be relatively modern like cancer, diabetes, blood pressure, hyperlipidaemia which were not known to writers of the ancient texts.	<p>It is not correct to say that diseases mentioned do not exist in ancient time, these were being called by different names. The ancient texts of India are written in Sanskrit which is different from English. So, cancer is mentioned as karkarog, TB as kshayrog and diabetes as madhumeh. The symptoms and cure of many diseases are given in our texts and they mention the use of cow urine and cow dung. This needs to be validated with modern scientific technology else a big component of Ayurveda, Unani, Siddha and Homeopathy will never be validated.</p> <p>For instance, a recent Noble Prize has been given for a study on fasting, it is claimed that fasting kills cancer cells. Fasting is tradition in our culture. Thus, we must appreciate that Ayurveda system of research is different than-allopathic way, and therefore, we need to appreciate that Indian system should also get adequate attention and care in the interest of society and nature.</p>
Scientific basis of presumption of special physiological status to select breeds of only one species. Thus, encouraging non-fair comparison with other breeds of cows around the world or other bovine species within India.	The projects invited under various themes and the discussions held in reference to it clearly mentioned the comparison between indigenous, hybrid and exotic cattle, which will be taken care by the Expert group of the program as well while evaluating the proposals-based on scientific merits.
The document is full of statements prefaced by 'it is believed'. Science cannot presume the	Science surely start all the experiments for validation with a hypothesis and then nullify or validate it using several techniques. In this case of SUTRA program, the hypothesis is already proven in an era when the texts were written. They only need to be tested with the modern scientific technologies. Many modern diseases have

<p>validity of beliefs, however commonly held.</p>	<p>found their cure in our traditional medicine system and it needs to be proven scientifically for the people who wish to practice it. Basically, through SUTRA program, efforts will be directed to study what is believed in our ancient texts. This knowledge has not been captured in published literature available, therefore, use of the words "we believe".</p> <p>Further, the way Traditional Chinese medicine is making a strong outreach for itself in the world, similarly, Ayurveda has the potential of finding its acceptance in Global health Care system.</p>
<p>Inadequate funding and delayed funding of several important research projects and young researchers, respectively.</p> <p>DST actively canvassing this proposal.</p>	<p>As such Government make concerted efforts to fund and support important research projects and young researchers as well, both in basic and applied research to benefit the society at large. In this process, it is also equally important to encourage research on our ancient science and belief with scientific validation which has been neglected so far, which is being attempted here in proposed SUTRA-PIC program evolved through multi-stakeholders' consultative process.</p>
<p>Whether the initiative is a genuine open-ended inquiry into claims on cows or an agenda-driven program.</p>	<p>SUTRA PIC program is open ended to achieve the given objective, which will be evaluated by group of experts in the relevant field. The program is an outcome of extensive brainstorming among the different stakeholders including R&D institutions /departments like CSIR, DBT, DST, IITs, AYUSH, MNRE, ICAR etc. and field based developmental agencies. After several rigorous meetings and discussions, the program was conceived and evolved for identified thematic areas of interventions through inter-ministerial funding.</p>
<p>Why is the focus only on cows? Why not other herbivores such as camels or goats-traditional medicine systems also mention products from other herbivores.</p>	<p>There are specific designated ICAR centres for research on other herbivores. For long time, there has been no specific centre for indigenous cows. The research and valuable information which is validated scientifically is already being done for other animals. While, present focus on Indigenous cows which are in large numbers, kept by the greatest number of families and is least skewed distributed resource among small and large farmers. Any positive research output will impact livelihoods, malnutrition, rural migration of large population for socio-economic transformation of rural sector and ultimately to benefit society at large.</p>
<p>CSIR, AYUSH and DBT have professed ignorance about the program.</p>	<p>They had been a party to all the discussions including the National Steering Committee (NSC) constituted by DST for the program.</p>
