BIRAC announces fourth Call of SPARSH

on

Ageing and Health

In response to the global challenges of ageing population, SPARSH announces its fourth call on "**Ageing and Health**" with focus on **Geriatrics and Assistive Medical Technologies.**

Prologue

Sparsh is the **Social Innovation programme for Products: Affordable & Relevant to Societal Health.** The programme aims at promoting the development of innovative solutions to society's most pressing social problems. The scheme tackles major social issues and offer new ideas for widespread change. The scheme aims to invest in ideas and innovations that improve health care of all Indians and encourage affordable product development in the social sector.

The scheme intends to create a pool of social innovators in the biotech arena who will identify the specific needs and gaps in healthcare. The social innovators will be provided financial and technical support for developing market-based solutions that have potential to bring cost effective health care breakthroughs to vulnerable populations in particular.

Sparsh was launched on 15th Aug 2013, with focus on Maternal and Child Health. The first and second call aimed to foster biotechnology in national priority area - Maternal & Child Health (MCH). The call was aligned with the UN Millennium Development Goal 4 and 5 i.e Reducing Child mortality and improving Maternal Health. SPARSH third call was in line with the Millennium Development Goal (MDG) 7 which aims at halving the proportion of the world's population without safe drinking water and basic sanitation between 1990 and 2015 (UN, 2002). The focus of SPARSH third call also reflects the mandate of Swatch Bharat mission.

Sparsh objectives

1. Identify and provide support to cutting edge innovations towards affordable product development that can bring significant **social impact and address challenges of inclusive growth**.
2. Provide support in form of **impact funding of biotech product innovations** (with social goals) that can be **scaled**.
3. Create and foster a **pool of social innovators** in biotech and provide a **platform** to share best practices, understand intricacies of business models in social innovation and network.

Introduction

SPARSH being the Social Innovation program of BIRAC, always endeavour to bring in high impact to the neglected section of the population. Global population ageing is a challenge which needs to be addressed. Especially in developing countries population ageing changes the nature of demands on health care systems. The public healthcare system has to accommodate the needs of the older population and needs a revamping to address the associated challenges.

SPARSH fourth call specifically targets the challenges associated with "Ageing and Health" and invites "letter of Intent" for the innovative products and technologies for strengthening this sector.

Aim and Objective

The aim of the fourth call is increasing the ***average life expectancy*** and ***adding life to years***.

Quality of life is widely accepted as an indicator of successful ageing. Objective SPARSH fourth call aims at enhancing the quality of the additional years added into someone's life.

Landscape and Gap Analysis

Global Statistics

In 2015, there are 901 million people aged 60 or over, comprising 12 per cent of the global population. The population aged 60 or above is growing at a rate of 3.26 per cent per year. Currently, Europe has the greatest percentage of its population aged 60 or over (24 per cent), but rapid ageing will occur in other parts of the world as well, so that, by 2050, all major areas of the world except Africa will have nearly a quarter or more of their populations aged 60 or over. The number of older persons in the world is projected to be 1.4 billion by 2030 and 2.1 billion by 2050, and could rise to 3.2 billion in 2100.

The pace of population ageing around the world is also increasing dramatically. France had almost 150 years to adapt to a change from 10% to 20% in the proportion of the population that was older than 60 years .However, places such as Brazil, China and India will have slightly more than 20 years to make the same adaptation.

Young Children and Older People as a Percentage of Global Population: 1950-2050
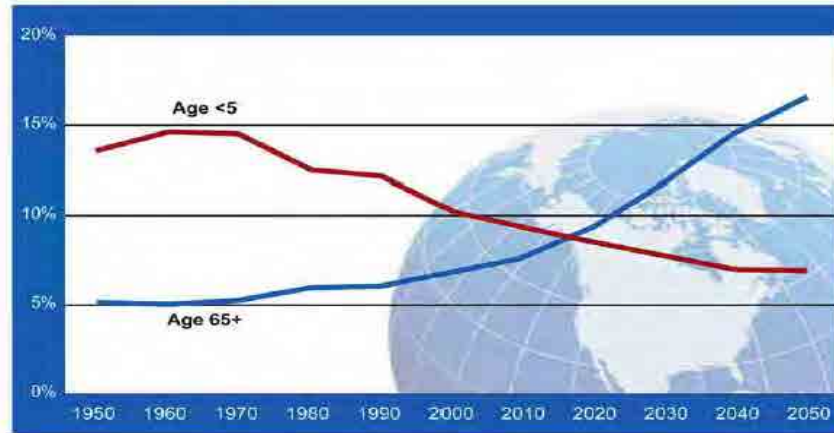
Source: United Nations, *World Population Prospects: The 2010 Revision.*
Available at: http://esa.un.org/unpd/wpp.

The Indian Picture

According to Population Census 2011 there are nearly 104 million elderly persons (aged 60 years or above) in India; 53 million females and 51 million males. Both the share and size of elderly population is increasing over time. From 5.6% in 1961 the proportion has increased to 8.6% in 2011. For males it was marginally lower at 8.2%, while for females it was 9.0%. As regards rural and urban areas, 71% of elderly population resides in rural areas while 29 % is in urban areas.

The life expectancy at birth during 2009 - 13 was 69.3 for females as against 65.8 years for males. At the age of 60 years average remaining length of life was found to be about 18 years (16.9 for males and 19.0 for females) and that at age 70 was less than 12 years (10.9 for males and 12.3 for females)

Health and Healthcare

Economic development and urbanization have brought lifestyle changes that have led to unhealthy nutrition, physical inactivity, and obesity contributing to the prevalence of diabetes. Chatterji and colleagues (2008) report a high rate of smoking (26 percent) and inadequate physical activity (18 percent) among Indians. These behaviours will likely translate into future ill health.

Almost one-half (47 percent) of older Indians have at least one chronic disease such as asthma, angina, arthritis, depression, or diabetes (Chatterji et al. 2008). The aging of India's population will lead to increases in the prevalence of chronic conditions such as diabetes and hypertension. By one measure, nearly one-half (45 percent) of India's disease burden is projected to be borne by older adults in 2030, when the population

age groups with high levels of chronic conditions will represent a much greater share of the total population.

Common conditions in older age include hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression, and dementia. Furthermore, as people age, they are more likely to experience several conditions at the same time.

Older age is also characterized by the emergence of several complex health states that tend to occur only later in life and that do not fall into discrete disease categories. These are commonly called geriatric syndromes. They are often the consequence of multiple underlying factors and include frailty, urinary incontinence, falls, delirium and pressure ulcers.

The biggest killers of older people are heart disease, stroke and chronic lung disease. The greatest causes of disability are sensory impairments (particularly in low- and lower-middle-income countries), back and neck pain, chronic obstructive pulmonary disease (particularly in low- and lower-middle-income countries), depressive disorders, falls, diabetes, dementia and osteoarthritis."

Rising numbers of older people will put new and increasing demands on the health care system. The "health care services will need to shift resources and services to respond to an aging population." An analysis by Farahani, Subramanian, and Canning (2010) linked public health spending in India to increased survival of the elderly and other vulnerable groups. They found that a 10 percent increase in public health spending decreases deaths by about 3 percent among the elderly, women, and children. India has committed new public funds to its health care system.

The Need

Technologies that assist in the care of chronic conditions and improve the independence of older adults can cover a very wide spectrum, including communication, assistive, tele-monitoring, tele-health and other technology - enabled services. Based on an extensive literature review, expert interviews and data drawn from expert panels, undertaken by the US Centre for Technology and Aging, seven technology domains have been identified as high priority technologies for rapid diffusion. The seven areas include:

1. Medication Optimization

2. Remote Patient Monitoring

3. Assistive Technologies

4. Remote Training and Supervision

5.   Disease Management

6.   Cognitive Fitness and Assessment

7.   Social Networking.

In accordance with a World Health Resolution, a comprehensive Global Strategy and Action Plan on Ageing and Health is being developed by WHO in consultation with Member States and other partners. The Strategy and Action Plan draws on the evidence of the World report on ageing and health and builds on existing activities to address 5 priority areas for action:

- Commitment to Healthy Ageing.

- Aligning health systems with the needs of older populations.

- Developing systems for providing long-term care.

- Creating age-friendly environments.

- Improving measurement, monitoring and understanding.

References

WHO World Report on Ageing and Health

Elderly in India 2016. Government of India.

Global health and Ageing – WHO

Situation Analysis of the Elderly in India. Government of India.

United Nations World Population Prospects - The 2015 Revision

India's Ageing Population, Todays Research on Ageing, March 2012

WHO Priority Assistive Products list

WHO Media Centre factsheet on Ageing and Health

A Global View on the Effects of Work on Health in Later Life. Ursula M. Staudinger * , Ruth Finkelstein, Esteban Calvo, and Kavita Sivaramakrishnan.

The Meaning of "Aging in Place" to Older People. Janine L. Wiles, Annette Leibing, Nancy Guberman, Jeanne Reeve, and Ruth E. S. Allen.

Japan: Super-Aging Society Preparing for the Future. Naoko Muramatsu and Hiroko Akiyama.

Long term care and technology, International Federation on Ageing (IFA)

The Challenge

SPARSH fourth call invites "Letter of Intent" from Innovators, Start-ups, SMEs, Incubators, Academic Institutes, Govt. bodies and Indian companies individually or in partnership / consortia mode.

Innovative products and technologies under the banner of "**Ageing and Health**" with focus on **Geriatrics and Assistive Medical Technologies** can be submitted through BIRAC online portal.

Some of the Innovative products and technologies which can be supported under the call, but not limited to are:

1. **Assistive Products and Technologies** which can help in daily functioning and operations of aged. The technologies may include devices for helping mobility, hearing aids, Vision, Incontinence, Therapeutic foot wares, Orthoses, etc.

2. **Technologies for managing emergency conditions**: Devices or products which can be used during emergency situation or can be used in improving Personal Emergency Response Systems (PERSs).

3. **Home-based Personalised Products**: Products or technologies custom designed for aged and elderly. The products to assist home based services like assistance with essential, routine activities such as eating, bathing, dressing, and tasks required to maintain independence.

4. **Management of Age related diseases**: It includes products, technologies or molecules targeting treatment or prevention of ageing diseases. Treatment options for aging diseases like Alzheimer's, Stroke, Neurological disorders, asthma, angina, arthritis, depression etc.

5. **Fortified food for Senior Citizen**: New formulations or Composition which are prepared as per the requirements of senior citizens. Development of Therapeutic Nutritional products, Micronutrient rich products or supplements are included.

6. **Techniques for Life Style alternatives** like pill organisers, Medication dispensers with alarms, Software for better medication adherence, Apps for management of diseases associated with life styles like hypertension, diabetes etc.

7. **Affordable and Innovative Diagnostic Tests**: Development of efficacious screening or Diagnostic tests for diseases associated with ageing. Point of Care diagnostics devices, Telemedicine and Tele-consultation, Real time monitoring of specific diseases.

Some of the products and technologies which are **not included** in the focus of the call and are strongly discouraged are:

- Routine spectacles, magnifiers, hearing aids or assistive devices freely available in market
- Hospital Infrastructure upgradation for aged like adding hand rails, grab bars, pavements, etc.
- Community based services like community development, housekeeping, dry-cleaning, are not included
- Apps for home delivery of groceries and other essentials
- Software for addressing education, awareness and behavioural aspects
- Manufacturing and scaling of already available nutraceutical products
- Smart watches and travel aids with alarms and other added parameters
- Mobiles with special features for elderly
- Video communication softwares, books, cards, etc.
- Alarms, Audio players with recordings
- Customised Cushions and Mattresses
- Home based diagnostic services or sample collection programmes by pathology labs.

Any devices or products which does not have any medical benefits are strictly not recommended.

Application Directions

The call is open for Affordable Product Development (APD) and Social Innovation Immersion program (SIIP). The requirements for both the components are different and mentioned in different sections of this document.

Component I: Affordable Product Development

The APD Component includes three categories as mentioned below

Category A: Idea to proof of concept (PoC)

Proposals are invited for taking an **Idea to PoC,** which is at an ideation or nascent stage and that would aim to bridge significant challenges in the socially relevant area.

Funding Support: Grant-in-aid assistance up to Rs. 50 lakhs for a period up to 18 months

Eligibility: This category is open to:
- Biotechnology Indian start-ups (Incorporated under the Indian Companies Act and having a minimum of 51% Indian Ownership) (Less than 3 years old as on the date of advertisement)/Indian entrepreneurs (Indian citizen willing to form a Company as per Indian Law).
- Limited Liability Partnership (LLP) incorporated under the Limited Liability Partnership Act, 2008 (less than three years old as on the date of advertisement) having a minimum half of the persons who subscribed their names to the LLP document as its Partners should be Indian citizens.
- Indian Academic Scientists, Researchers, PhDs, Medical Degree Holders, Biomedical Engg Graduates (who must be willing to incubate in a business incubator)
- No DSIR certification is required

Category B: Proof of Concept to Validation

Proposals are invited in various areas which have crossed the ideation and PoC and are in the stage of need for validation.

Funding Support: Grant-in-aid up to 50 Lakhs over the period up to 24 months

Eligibility: This category is open to:

FOR COMPANIES (For profit/ nor for Profit)
- Incorporated under the Indian Companies Act having a minimum of 51% Indian

ownership.
- DSIR recognition.

FOR LIMITED LIABILITY PARTNERSHIP
- Limited Liability Partnership (LLP) incorporated under the Limited Liability Partnership Act, 2008 having a minimum half of the persons who subscribed their names to the LLP document as its Partners should be Indian citizens.
- The Applicant should own the background Intellectual Property based on which the proposal is made.

FOR INDIAN INSTITUTION/ UNIVERSITIES/ PUBLIC RESEARCH ORGANIZATION WHO CAN BECOME CO-APPLICANTS ALONG WITH THE COMPANY/LLP AS MAIN APPLICANT

Established in India and having NAAC/ UGC/ AICTE or any equivalent recognition certificate.

FOR PARTNERSHIP FIRMS/ SOCIETY/ TRUST/ NGO/ FOUNDATION/ ASSOCIATION WHO CAN BECOME CO-APPLICANTS ALONG WITH THE COMPANY/LLP AS MAIN APPLICANT

Partnership Firms/ Society/ Trust/ NGO/ Foundation/ Association established in India under the relevant Indian Law having at least half of the stakeholders (partners/ trustees/ members/ associates etc) as Indians.

NOTE: Applicants and Co- applicants should not have any other legal disqualification that will prohibit them from participating in the scheme process and execution of necessary agreements thereafter.

Category C: Access to innovative pilot scale delivery models

Proposals are invited for Implementation of delivery models of innovative products and services pertaining to Ageing and health (which have gained necessary regulatory approvals) and services that can show positive social impact, sustainability of the operations and potential for scale up in the near to medium term.

Funding Support: Grant-in-aid for a period up to 24 months. The project cost sanctioned for the Company would be matched equally by BIRAC and the Company.

Eligibility: This category is open to:

FOR COMPANIES (For profit/ nor for Profit)
- Incorporated under the Indian Companies Act having a minimum of 51% Indian ownership.
- DSIR recognition
- The product should have gained necessary approvals from the concerned regulatory authority (-ies) for pilot studies.
- It is desirous that the projects show partnership or a consortium between product/service innovator Company, an implementer/deployer (Research Foundations, Section 25 companies etc) and clinical partner(s). Any such Partner

for execution/implementation can become Co-Applicant in the proposal. Co-Applicant should have been established as a legal entity under the relevant Law of India having at least half of the stakeholders (owners/partners/ trustees/ members/ associates etc) as Indians. Local/state/ Central Departments can also become part of the execution/ implementation/ survey etc.

Component II: Social Innovation Immersion Program (SIIP)

SIIP is a fellowship scheme under SPARSH which intends to create a pool of social innovators in the biotech arena who can identify specific needs and gaps in healthcare of different communities which can then be bridged and serviced through innovative product development and services.

To encourage researchers to understand the milieu of Ageing and Health and generate pipeline of possible technologies in this arena, BIRAC invites proposals from organisations such as venture centres, , Foundations, Technology Centres, Incubators, Public Research Institutions, Private Research Institutions, Public & Private Hospital to initiate and operationalize a structured 18 months of social innovation immersion programme.

The SIIP partner will be responsible for training the Social Innovation Fellows on process of systematic clinical & Community observation, needs assessment and refinement, affordable technology development & Commercialization, market and industry research and enabling rural / remote settings. For these aspects it is expected from SIIP partners to have clinical and rural partners and mentors of primary, secondary and tertiary Healthcare levels.

The need identification could be through immersion and embedding the fellows with clinicians and/or rural communities. The SIIP fellows will receive a fellowship from BIRAC (amounting to INR 35,000 – 50,000/month) and a mini-kickstart grant of INR 5 lakhs per fellow.

Successful fellows in this programme are expected to be graduates and postgraduates from Lifesciences, Biotechnology, Biomedical, Medicine and Engineering background.

Objective of SIIP programme:

The primary objective of SIIP is to create a pool of biotech "Social Innovators" who can identify needs & gaps within communities and then can help bridge the gaps either through an innovative product development or services. This program is envisaged to be operationalised with partners (academic technology centers, business incubators and related organizations) who help provide a whole host of technical, business and Marketing mentoring to the fellows.

Eligibility Criteria for SIIP Partners

The Applicant venture centers, Foundations, Technology Centers, Incubators, Public Research Institutions, Private Research Institutions, Public & Private Hospital should have been established as a legal entity under the relevant Law of India having at least half of the stakeholders (owners/partners/ trustees/ members/ associates etc) as Indians. It is desirous that the applicant organisation have

a.   A clinical partner for facilitating need identification.

b.   Experts who can provide mentorship to fellows

Operational Elements & Workplan of SIIP:

The overall administrative responsibility of the SIIP would rest on the partnering organization which would operationalize the programme (henceforth referred to as BIRAC SIIP Partner).

The following is a suggested work flow for SIIP, which will also act as the Milestones and Deliverables for SIIP. The formal 18 months of the SIIP will start from Pre-Immersion orientation and Induction phase.

1. Recruitment & Selection of Social Innovator Fellows (Upto 6 weeks)
2. Pre-Immersion orientation & induction: (Upto 4 weeks)
3. Immersion Programme (Upto 24 Weeks)
4. Post Immersion Filtration (Upto 12 weeks)
5. Product Design, Prototyping and Delivery Mechanism (Upto 36 weeks)

Outcome

BIRAC expects the Social innovators to reach a point where they either have a ready business plan to pitch to investors, or an advanced proposal with some preliminary results suitable for funding by BIG or equivalent funding source or a technology / patent suitable for licensing

Intellectual Property

The IP generated during the SIIP programme would rest with the social innovators and neither BIRAC nor partners would claim the IP rights.

Application process

1. The call for letter of Intent will be announced on a thematic area with high societal impact
2. The LoI will be submitted online through registration at BIRAC website
3. The eligible LoIs will be scrutinised online by the SPARSH Technical Advisory Group (STAG -1)
4. Submission of Full proposal by the shortlisted applicants
5. Full proposal will be reviewed online by subject experts
6. Mentoring and Evaluation (M&E) Induction Program will be organised for shortlisted Category "A" applicants. The applicants will get mentorship on grant writing skills, proposal technicalities, Documentation skills, financial requirements and Technical aspects.
7. Site visits will be organised for Category "B" and "C" applicants.
8. Revised proposal submission by the applicants (If required based on the M&E Induction program or site visit recommendations).
9. Advanced Evaluation and Recommendation will be carried out by STAG-2 based on the revised proposal, the reports of the lead discussants and the BIRAC facilitators for shortlisted proposals.
10. BIRAC shall process the sanction of fund after financial, legal concurrence, due approval etc

For further details on the program please see Sparsh Solicitation document at http://www.birac.nic.in

Or

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