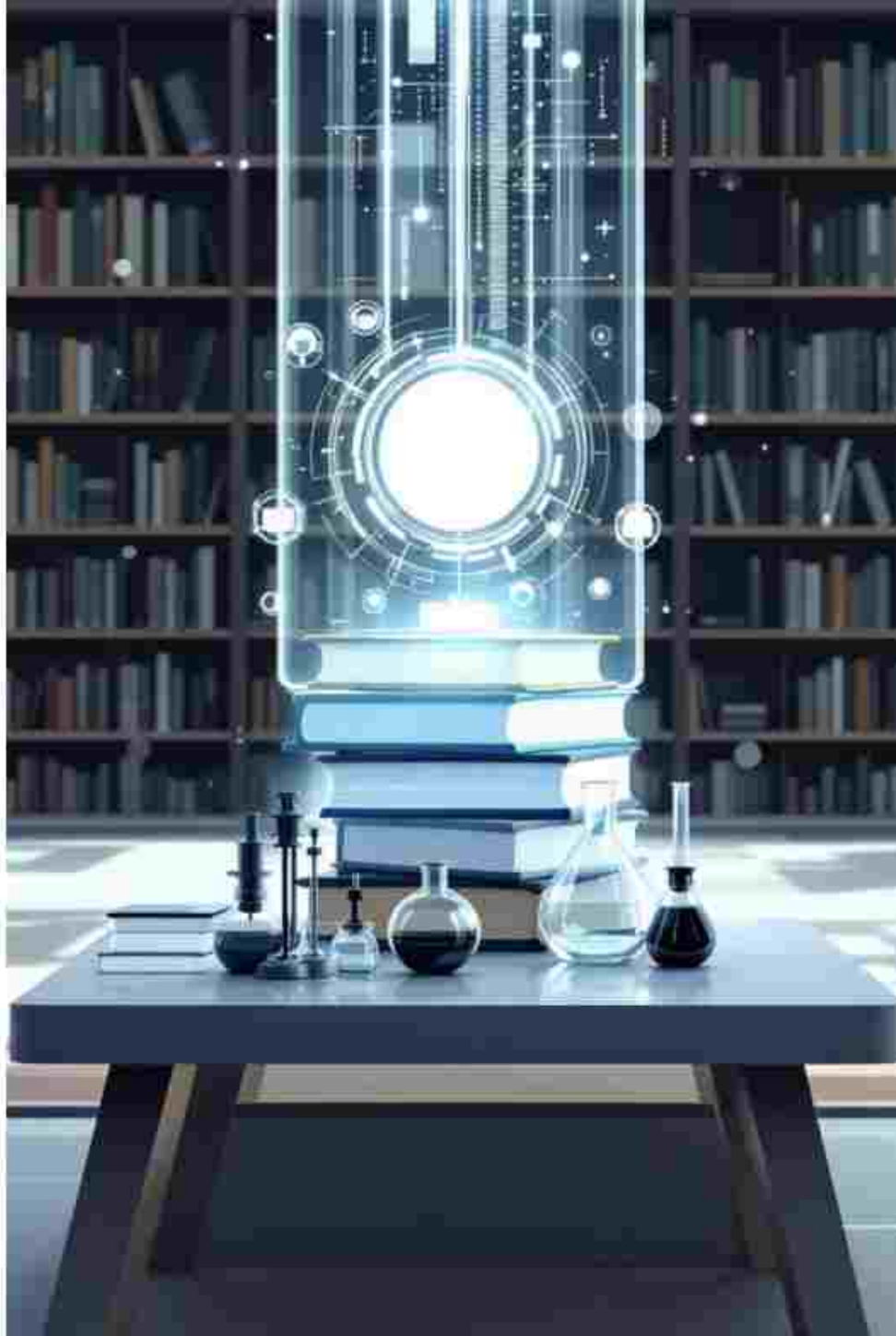
INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

1. Scientific-Publications-and-SDG-Alignment-A-Strategic-Imperative

Scientific Publications and SDG Alignment: A Strategic Imperative

Elevating Research Impact and Institutional Credibility



Introduction

The Power of Publication: Driving Institutional Excellence

The design and reporting of scientific publications are vital for demonstrating an institution's research strength, innovation culture, and academic credibility. Beyond academic prestige, these publications serve as direct contributions to global sustainable development goals.

SDG 4: Quality Education

Enhancing knowledge dissemination, fostering research-based learning, and training students in scholarly writing.

SDG 9: Industry, Innovation & Infrastructure

Supporting innovation, promoting evidence-based practices, and strengthening academic–industry collaborations.

Strategic Framework

Phase 1: Planning and Research Capacity Building

A structured plan for encouraging research and publications is foundational. This phase focuses on equipping faculty and students with the necessary skills and fostering a vibrant research culture.

1 Comprehensive Training Programmes

Workshops on research methodology, advanced statistics, academic writing, and effective referencing tools.

2 Ethical Guidelines & Best Practices

Thorough instruction on research ethics, integrity, and international publication standards (e.g., ICMJE, COPE).

3 Cultivating a Culture of Inquiry

Establishment of journal clubs, peer review groups, and mentorship programmes to nurture scholarly development.

Phase 2: Research Design and Conduct

This critical phase ensures that research undertaken is robust, ethical, and poised for impactful publication. Emphasis is placed on scientific rigor and adherence to global standards.

Well-Structured Studies

Encouraging diverse research designs: experimental, clinical trials, case-control studies, systematic reviews, and meta-analyses.

Focus on addressing pertinent healthcare, educational, or interdisciplinary challenges relevant to societal needs.

Phase 3: Submission and Publication Process

Navigating the publication landscape effectively is crucial for maximising research visibility and impact. Institutions should actively guide researchers towards reputable publication avenues.

Targeting High-Impact Journals

Encouraging publication in peer-reviewed, indexed, and impact factor journals (Scopus, PubMed, Web of Science, UGC-CARE list).

Fostering Collaborative Research

Promoting joint ventures with industries, other research institutes, and universities to enhance publication quality and reach.

Leveraging Open Access

Educating on the benefits of open access publishing for wider dissemination and increased citation potential.

Directly linking to SDG 9, *collaborative research strengthens innovation partnerships and amplifies societal relevance.*

Phase 4: Monitoring and Documentation

Systematic tracking of publications is essential for evaluating research output, identifying growth trends, and demonstrating alignment with institutional priorities.

- *Maintain a central database of all institutional publications.*
- *Record comprehensive bibliographic details: title, authors, journal, year, indexing, impact factor, citations, and DOI.*
- *Classify publications by type: original articles, reviews, case reports, books, book chapters, and conference proceedings, to showcase research diversity.*
- *Conduct annual reviews of publication metrics to analyse growth trends and alignment with strategic research areas.*

Strategic Framework

Phase 5: Comprehensive Reporting

Robust reporting of scientific output is critical for demonstrating institutional impact and fulfilling accreditation requirements (e.g., NAAC/IQAC documentation).

Key Reporting Components:

- ***Publication Lists:*** *Detailed bibliographic data for all faculty and student publications.*
- ***Journal Categorisation:*** *Classification by indexing bodies (Scopus, PubMed, UGC-CARE, peer-reviewed only).*
- ***Trend Analysis:*** *Annual publication volumes, distinguishing between faculty and student contributions.*
- ***Achieved Outcomes:*** *Citations, h-index metrics, patent filings, policy influence, and adoption in clinical practice.*
- ***Evidence Collection:*** *Digital copies of journal articles, DOIs, and conference proceedings for verification.*

Demonstrating SDG Contributions Through Reporting

Transparent reporting effectively communicates how the institution's scientific output contributes to broader societal goals.

Knowledge Creation (SDG 4)

Reporting highlights how research discoveries enrich educational content, inform curriculum development, and empower the next generation of scholars. It underscores the institution's role in advancing human understanding.

Innovation Capacity Building (SDG 9)

Documentation showcases how research translates into practical applications, fostering industrial growth, improving infrastructure, and promoting sustainable innovation across various sectors.

Continuous Improvement

Phase 6: Review and Improvement Cycle

Sustainability in research excellence demands an ongoing cycle of review, identification of gaps, and strategic intervention.

Identify Gaps

Analyse challenges such as low publication rates in indexed journals or limited international collaborations.

Design Interventions

Implement targeted programmes: publication incentives, seed grants, faculty development, and industry tie-ups.

Foster Collaborations

Actively seek international research partners and multidisciplinary collaborations to broaden impact.

This adaptive approach strengthens the overall research ecosystem and enhances the institution's global academic reputation.

Key Takeaways and Next Steps

By strategically fostering a robust research and publication environment, our institution not only elevates its academic standing but also profoundly contributes to global sustainable development.

Strategic Planning

Develop a clear roadmap for research capacity building and publication support.

Continuous Development

Invest in ongoing training and mentorship for faculty and students.

Impactful Dissemination

Prioritise publishing in reputable journals and fostering global collaborations.

Rigorous Monitoring

Maintain comprehensive documentation and conduct regular performance reviews.

Together, we can amplify our research impact and lead the way in sustainable academic excellence.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

2. Elevating-Academic-Impact-Paper-and-Poster-Presentations-for-SDG-Alignment

Elevating Academic Impact: Paper & Poster Presentations for SDG Alignment

This presentation explores how strategic engagement in paper and poster presentations can significantly contribute to global Sustainable Development Goals (SDGs), particularly in fostering quality education and promoting innovation.

Connecting Research to Global Goals

Paper and poster presentations are not just academic exercises; they are vital catalysts for achieving broader societal objectives. By making research accessible and fostering critical dialogue, they directly support the United Nations Sustainable Development Goals.

1

SDG 4: Quality Education

Enhances teaching-learning, promotes research culture, and develops critical thinking & communication skills.

2

SDG 9: Industry, Innovation & Infrastructure

Fosters knowledge exchange, encourages innovation, and builds collaborative networks.

The Dual Impact of Presentations

Academic presentations serve a dual purpose, directly aligning with two critical Sustainable Development Goals by fostering educational advancement and driving innovation through collaborative knowledge exchange.

Phase 1: Capacity Building & Orientation

The foundational step involves equipping faculty and students with essential skills for effective academic dissemination. This includes rigorous training in scientific writing, abstract preparation, and comprehensive literature review techniques.

- *Workshops on visual design (PowerPoint, Canva, LaTeX)*
- *Training in oral presentation skills and delivery*

Mentorship from senior faculty members is crucial at this stage, ensuring high standards of quality and promoting originality in all research outputs.

Phase 2: Designing Material for Presentation

Original Research

Encourage groundbreaking studies and innovative solutions.

Review Papers

Synthesize existing knowledge to identify gaps and future directions.

Clinical & Case Reports

Share practical insights from real-world applications.

Pedagogical Innovations

Disseminate new teaching methods and educational tools.

Content must adhere to ethical guidelines and scientific standards (ICMJE, COPE). Abstracts require clarity on problem, methodology, results, and conclusions, while posters demand visual appeal and focus on key findings.

Phase 3: Participation in Academic Platforms

Submitting presentations to national and international conferences, seminars, workshops, and symposia is paramount for broader dissemination and impact.

> *"Selection in reputed events adds significant value to institutional visibility and researcher credibility."*

Oral papers showcase scientific rigour, while posters offer concise, visual communication, engaging diverse audiences and fostering interdisciplinary discussions at events from ICMR to WHO conferences.

Phase 4: Documentation & Reporting

Comprehensive Records

Maintain detailed records of all presentations, including title, author(s), type (oral/poster), and event details.

Evidence Collection

Collect photographs, conference certificates, published abstracts, and event brochures as verifiable evidence of participation.

Relevance Highlight

Ensure reports explicitly link each presentation to institutional research goals and specific SDG contributions, demonstrating tangible impact.

This systematic approach ensures accountability and provides valuable data for future strategic planning and impact assessments.

Phase 5: Impact Assessment

Analyzing the outcomes of presentations provides crucial insights into their effectiveness and future potential. This assessment includes:

- *Awards and recognitions received*
- *Feedback from peers and experts*
- *New collaborations initiated*
- *Knowledge disseminated to broader audiences*

This feedback loop is vital for enhancing research skills, informing future projects, and fostering a robust ***research-to-publication pipeline*** *by converting presentations into full-length scientific publications.*

Phase 6: Review & Improvement Cycle

To ensure sustained growth and quality, institutions must implement an annual review process:

Participation Rate

Assess the annual increase in faculty and student engagement in presentations.

Quality of Abstracts

Evaluate the clarity, originality, and scientific rigor of submitted abstracts.

Diversity of Themes

Monitor the breadth of research topics presented and their alignment with interdisciplinary goals.

SDG Alignment

Verify that presentations consistently contribute to and reflect the institution's commitment to relevant SDGs.

Incentives such as best paper/poster awards and research grants can significantly motivate continued excellence and engagement.

Key Takeaways & Next Steps

- ***Strategic Imperative:*** *Embrace paper and poster presentations as integral to SDG contributions.*
- ***Continuous Improvement:*** *Implement robust training, documentation, and review cycles.*
- ***Maximise Impact:*** *Transform presentations into publications and foster lasting collaborations.*

Thank you.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

3. Driving-Research-Excellence

Driving Research Excellence

Leveraging External Funding for Sustainable Development Goals

Setting the Stage

The Power of External Funding

External funding is more than just financial support; it's a catalyst for academic credibility, innovation, and global collaboration. It directly advances UN Sustainable Development Goals (SDGs), particularly in the realms of innovation and partnership.

Strategic Alignment: Funding & SDGs

SDG 9: Industry, Innovation & Infrastructure

SDG 17: Partnerships for the Goals

Phase 1: Opportunity & Planning

Establish R&D/Sponsored Research Cell

A dedicated unit is crucial for tracking funding agencies (e.g., ICMR, DBT, WHO, NIH) and managing the grant lifecycle efficiently. This centralises information and streamlines processes.

Faculty Training & Prioritisation

Equip faculty with the skills to identify priority research areas. Align institutional expertise with community needs and specific SDG targets to ensure proposals are highly relevant and competitive.

Systematic Funding Landscape Analysis

Regularly analyse the evolving landscape of funding opportunities, identifying emerging trends and interdisciplinary calls. This proactive approach ensures proposals are timely and strategically positioned.

Phase 2: Building Proposal Writing Capability

01

Workshops & Mock Presentations

Conduct intensive workshops focusing on framing research questions, developing sound methodologies, and preparing realistic budgets and timelines. Mock presentations provide invaluable feedback.

02

Mentoring by Senior Researchers

Pairing junior faculty with experienced researchers offers personalised guidance, helps navigate complex requirements, and shares best practices for successful grant applications.

03

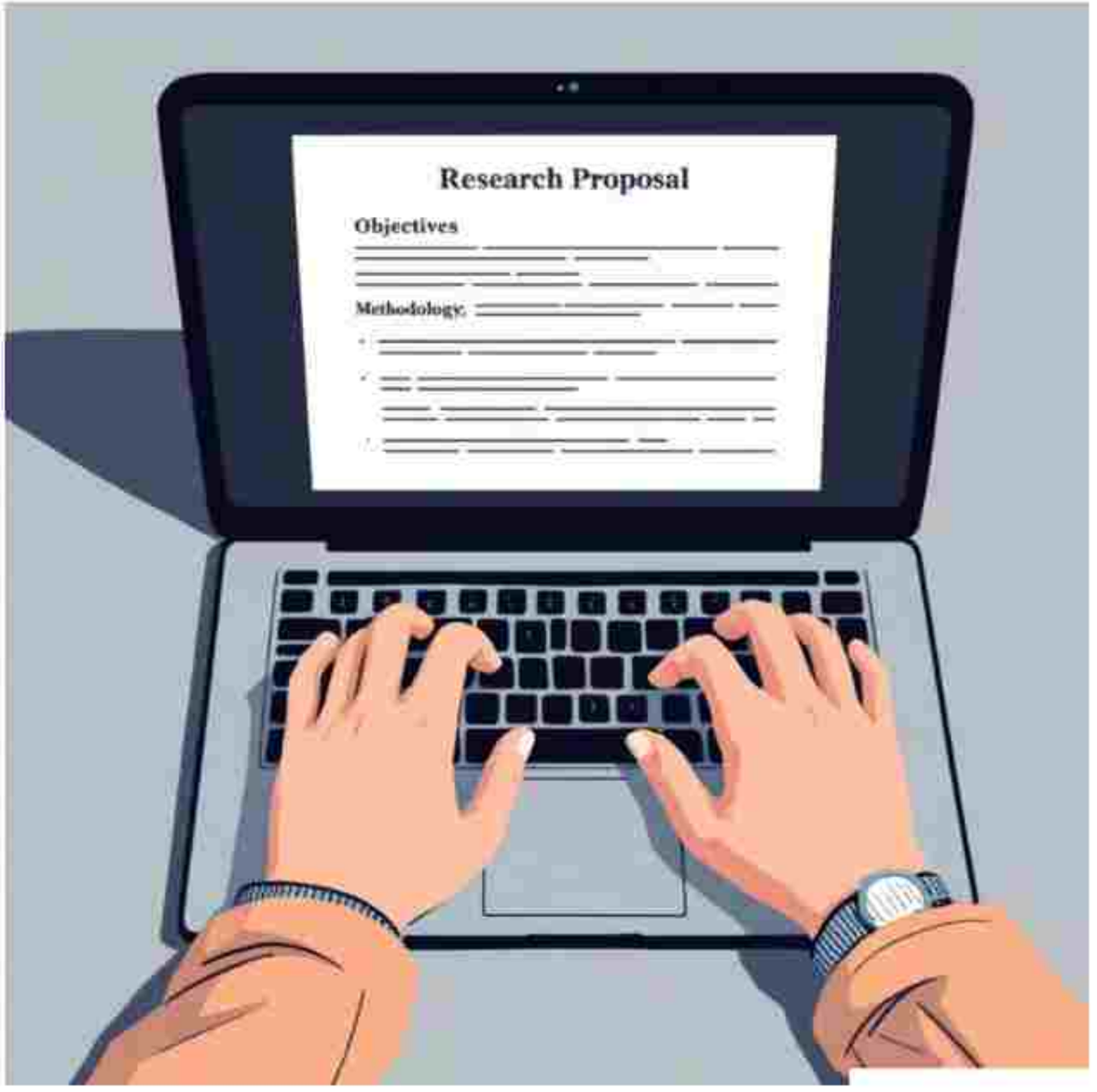
Focus on Ethical & Multidisciplinary Aspects

Emphasise the importance of ethical approvals, inter-institutional collaboration, and multidisciplinary approaches. These elements significantly enhance a proposal's appeal and increase funding chances.

Phase 3: Design & Submission Excellence

A compelling research proposal is meticulously structured:

- ***Problem Statement:*** *Clearly articulate the research gap.*
- ***Literature Review:*** *Demonstrate comprehensive knowledge.*
- ***Objectives & Methodology:*** *Define clear, measurable goals and robust experimental design.*
- ***Innovation Component:*** *Highlight novelty and unique contributions.*
- ***Budget Justification:*** *Provide a transparent and realistic financial plan.*
- ***Expected Outcomes & Sustainability:*** *Outline potential impact and long-term viability.*



Internal peer review *before submission is vital for quality assurance. Furthermore, proposals should highlight* ***collaborations*** *with industry, healthcare, or international partners to demonstrate strong SDG 17 alignment and maximise impact.*

Phase 4: Execution & Monitoring Success

1

Rigorous Implementation

Strict adherence to the approved project plan is paramount. Any deviations must be well-justified and communicated to the funding agency.

2

Transparent Financial Management

Maintain impeccable records of financial utilisation. Regular internal audits and clear reporting ensure accountability and compliance with funding guidelines.

3

Continuous Progress Reporting

Submit timely progress reports and interim findings to funding agencies. Disseminate knowledge within the institution through presentations to foster a culture of shared learning.

4

Capacity Building During Execution

Actively involve junior researchers and students in project activities. This hands-on experience is critical for their professional development and ensures project sustainability beyond its initial term.

Phase 5: Reporting & Dissemination

Upon project completion, comprehensive reporting is essential:

- ***Publications:*** *Disseminate findings in peer-reviewed journals and present at national/international conferences.*
- ***Policy Briefs:*** *Share outcomes with relevant policy-making bodies to inform decision-making.*
- ***Financial Documentation:*** *Provide fund utilisation certificates and audited accounts.*
- ***Outcome Reporting:*** *Detail research findings, patents, and the broader societal or industrial benefits achieved.*
- ***Documentation for Accreditation:*** *Compile evidence (photos, certificates, MoUs, reports) for NAAC/QCI documentation.*

Phase 6: Impact & Partnership Assessment

Innovation Contributions

Evaluate how the research led to new diagnostics, therapies, community interventions, or patents, directly contributing to societal progress.

Infrastructure Development

Assess the impact on institutional infrastructure, including new lab facilities, equipment, or technological capabilities developed through the project.

Long-Term Collaborations

Analyse the strengthening of ties with global partners, industries, or public health agencies, laying the groundwork for future joint ventures.

Continuous Improvement Framework

Utilise assessment findings to refine future proposal strategies, identify areas for growth, and ensure ongoing relevance and impact.

Sustainability & Future Planning

Converting completed projects into larger consortia-based studies, public health programs, or translational research initiatives ensures long-term impact.

- ***Awards & Recognition:*** *Motivate faculty through awards, seed grants, and career advancement opportunities linked to successful funded research.*
- ***Strategic Reinvestment:*** *Reinvest grant overheads into research infrastructure and support systems to foster a self-sustaining research ecosystem.*
- ***Policy Advocacy:*** *Leverage research findings to influence policy-making and contribute to national and international development agendas.*

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

4. Patenting-for-Progress-Driving-Innovation-and-Sustainable-Development

Patenting for Progress: Driving Innovation and Sustainable Development

Welcome to this presentation on leveraging institutional patents to foster innovation and contribute to the United Nations Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure).

Section 1: Idea Generation & Identification

Fostering a Culture of Innovation

Innovation Awareness

Implement regular workshops and training sessions for faculty, researchers, and students on Intellectual Property Rights (IPR), patent laws, and the patent application process.

Scouting Mechanisms

Establish a systematic approach for scouting innovative ideas across all departments, encouraging the reporting of novel projects to a central IPR cell or R&D Committee.

Invention Disclosure

Guide faculty and students in documenting their research in detailed invention disclosures, focusing on novelty, utility, and potential industrial or societal applications.

The Patent Journey: From Concept to Protection

Identifying Breakthroughs

The institution must first identify innovative ideas and research outcomes emerging from its academic, clinical, and laboratory activities that have potential for commercialisation or unique application.

Section 2: Patent Design & Development

Crafting Robust Patent Applications

01

Prior Art Search

Conduct exhaustive prior art searches and literature reviews to confirm the novelty and non-obviousness of identified innovations, a critical step for patentability.

02

Specification & Claims

Prepare comprehensive patent specifications, detailed claims, and illustrative diagrams in close consultation with legal and IPR experts or government-recognized patent attorneys.

03

Strategic Collaboration

Actively collaborate with external research institutions, industry partners, and governmental bodies to enhance the scope and impact of patent filings.

04

Dedicated Funding

Establish a robust funding mechanism, utilising both internal and external sources, to support all stages of the patent process, from drafting to filing and prosecution.

Bridging Traditional Knowledge with Modern Innovation

To strengthen credibility and expand the societal impact, patents should be strategically linked with:

- ***Evidence-based Ayurvedic practices:*** *Validating traditional medicine through modern research.*
- ***Novel drug formulations:*** *Developing new therapeutic solutions.*
- ***Advanced diagnostic tools:*** *Improving early disease detection.*
- ***Innovative laboratory devices:*** *Enhancing research capabilities.*
- ***Digital health platforms:*** *Modernising healthcare delivery.*

Section 3: Reporting & Impact

Transparent Patent Reporting

Centralised Database

Maintain a comprehensive patent register or database detailing all filed, published, and granted patents, including inventor details, application numbers, filing dates, and current status.

Annual Performance Analysis

Include department-wise and discipline-wise analysis of patent activity in annual reports to transparently showcase the institution's research strengths and areas of expertise.

Ecosystem Alignment

Align patents with the broader innovation and entrepreneurship ecosystem by linking them with incubation centres, fostering startups, and exploring licensing opportunities.

Showcasing Patent Contributions

Patent outcomes must be prominently showcased in key institutional reports and assessments:

- ***Academic Audits:*** *Demonstrate research productivity and impact.*
- ***NAAC Submissions:*** *Provide evidence of quality research output for accreditation.*
- ***Quality Assurance Reports:*** *Highlight contributions to institutional excellence.*

These demonstrate how patents contribute directly to ***SDG 9: Industry, Innovation, and Infrastructure*** *by fostering sustainable innovation, strengthening industrial collaboration, supporting infrastructure development, and facilitating technology transfer.*

Documentation for Credibility

Compile comprehensive documentary evidence to support patent-related claims, including photographs of workshops, screenshots of filing certificates, Memoranda of Understanding (MoUs) with industries, and detailed case studies of patent commercialisation.

Driving Sustainable Development: SDG 9 Linkage

Patents are not just legal documents; they are catalysts for economic and societal progress.

*They embody the spirit of **SDG 9** by directly contributing to:*

- ***Building resilient infrastructure:** Through advanced technologies.*
- ***Promoting inclusive and sustainable industrialisation:** Fostering new industries and job creation.*
- ***Fostering innovation:** By protecting and incentivising groundbreaking ideas.*

Key Takeaways & Next Steps

Strategic Integration

Integrate patent creation across awareness, scouting, documentation, expert guidance, and funding.

Academic Excellence

Strengthen the institution's academic reputation and research output.

Industry Impact

Directly contribute to industry, innovation, and infrastructure development.

SDG 9 Contribution

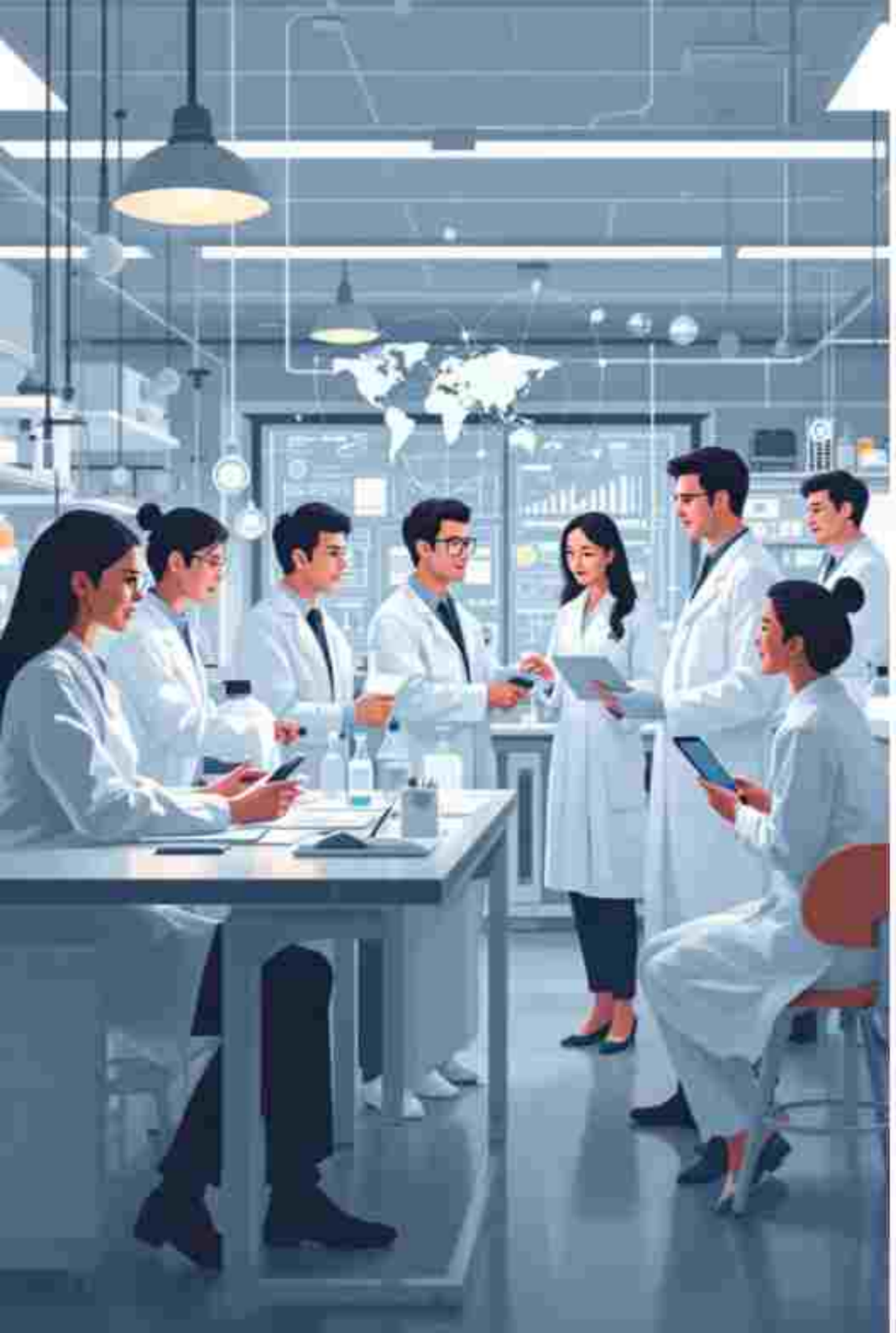
Ensure patents contribute to global sustainable development goals.

By embracing these steps, our institution can become a leader in innovation, creating tangible impact for both society and the economy.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

5. Elevating-PhD-Research-A-Strategic-Framework-for-Excellence



Elevating Ph.D. Research: A Strategic Framework for Excellence

This presentation outlines a comprehensive strategy to enhance the status of Ph.D. students, fostering a robust research ecosystem aligned with global development goals.

Agenda

Establishing a Robust Research Ecosystem

Transparent Admission & Orientation

Designing the Ph.D. Research Framework

Fostering Interdisciplinary Collaboration

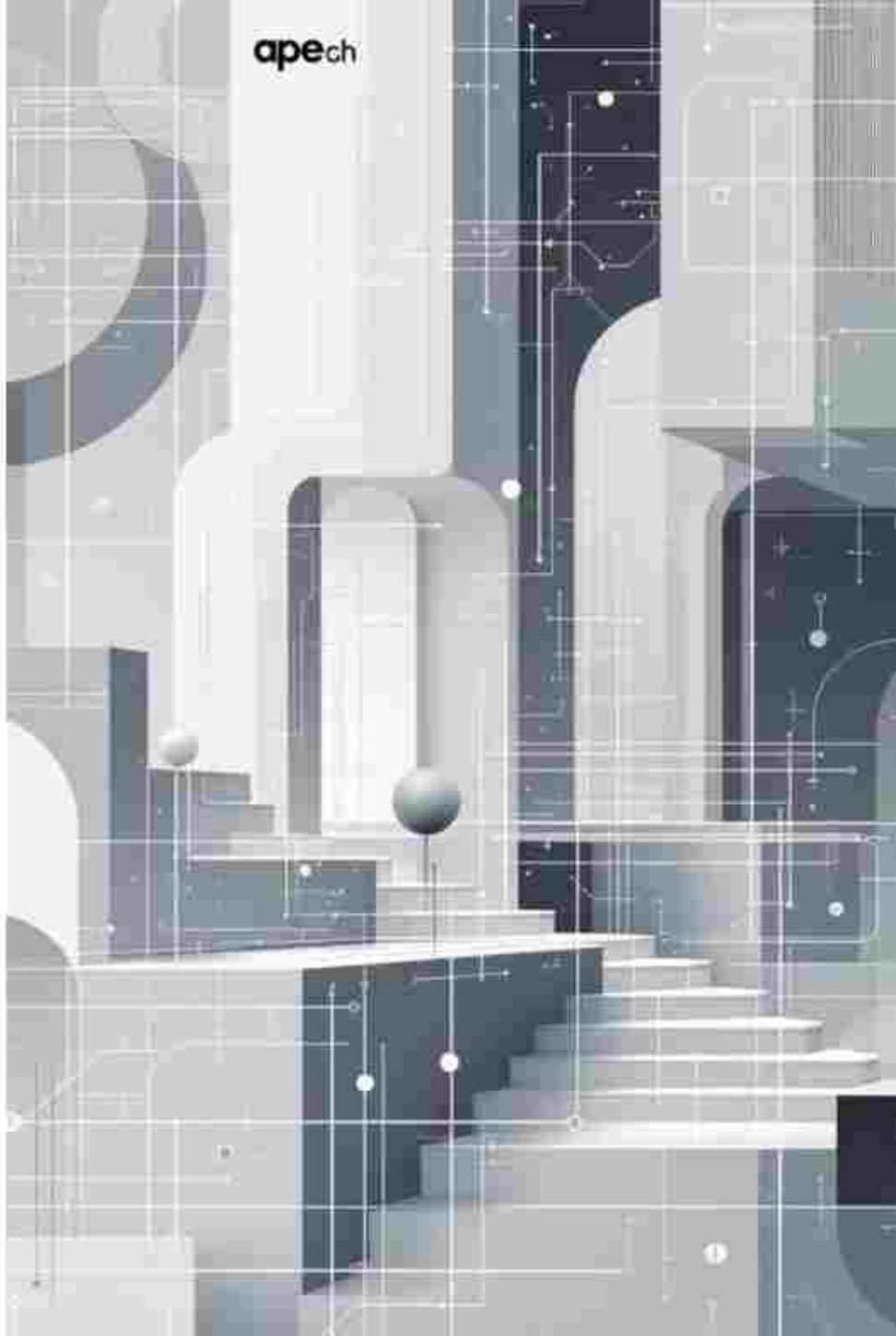
Ensuring Robust Infrastructure Support

Systematic Reporting & Impact Assessment

Contribution to SDGs & Global Impact

Establishing a Robust Research Ecosystem

To elevate Ph.D. student status, the institution must build a structured research ecosystem. This ecosystem is designed to promote advanced learning, drive innovation, and ensure global competitiveness for all research scholars.



Transparent Admission & Orientation

The foundation of a strong Ph.D. programme lies in ensuring transparent eligibility and admission procedures. Adherence to UGC/NCISM guidelines is paramount, encompassing rigorous entrance examinations, comprehensive interviews, and meticulous screening processes. This initial phase is critical for identifying candidates who possess not only academic merit but also a genuine aptitude and passion for research.

Once admitted, comprehensive orientation is key. This includes essential research methodology workshops, intensive ethics training to uphold academic integrity, and capacity-building programmes. These initiatives directly align with SDG 4 (Quality Education), fostering lifelong learning and maintaining high academic standards throughout the Ph.D. journey.

Designing the Ph.D. Research Framework

Recognised Guidance

Each scholar must be allotted a recognised guide and Research Advisory Committee (RAC).

Progress Monitoring

RACs are crucial for continuous monitoring and constructive feedback on scholar's progress.

Innovation Focus

Research plans must emphasise innovation, technology integration, and evidence-based validation.

SDG 9 Contribution

Directly contributing to SDG 9 (Industry, Innovation, and Infrastructure) through impactful research.

Fostering Interdisciplinary Collaboration

Encouraging interdisciplinary collaboration is vital for modern research excellence. Specifically, linking traditional knowledge systems like Ayurveda with modern sciences such as biotechnology, molecular biology, pathology, bioinformatics, and pharmacology can unlock new insights and solutions.

Establishing Memoranda of Understanding (MoUs) and strategic linkages with industries, national laboratories, and international universities are crucial. These collaborations enrich the scholar's exposure, provide access to diverse expertise, and significantly enhance their innovation capacity.

Made with GAMMA

Ensuring Robust Infrastructure Support

High-quality research outcomes are directly dependent on robust infrastructure. This includes well-equipped laboratories with cutting-edge instrumentation, comprehensive digital libraries offering vast e-databases, and advanced simulation facilities. These resources are indispensable for facilitating rigorous and impactful research.

Systematic Reporting & Impact Assessment

100%

Transparency

Dedicated database to capture all Ph.D. student and research details.

95%

Quantitative Metrics

Report on enrolled, ongoing, and awarded Ph.D.s, funding sources, and publications.

80%

Qualitative Aspects

Highlight research relevance, societal impact, employability, and entrepreneurial potential.

90%

Compliance & Documentation

Maintain records for NAAC/QCI, including admission, progress reports, thesis, and patents.

Contribution to SDGs & Global Impact

Academic Growth & Standards

Sustainable Knowledge Generation

Key Takeaways & Next Steps

- ***Strategic Framework:*** *Implement the outlined ecosystem for Ph.D. excellence.*
- ***SDG Alignment:*** *Continue aligning research with SDG 4 and SDG 9 objectives for broader impact.*
- ***Collaboration:*** *Strengthen interdisciplinary ties and industry partnerships.*
- ***Data-Driven Decisions:*** *Utilise systematic reporting for continuous improvement.*

Next Steps: *Establish a task force to develop detailed implementation plans and timelines for each strategic pillar.*

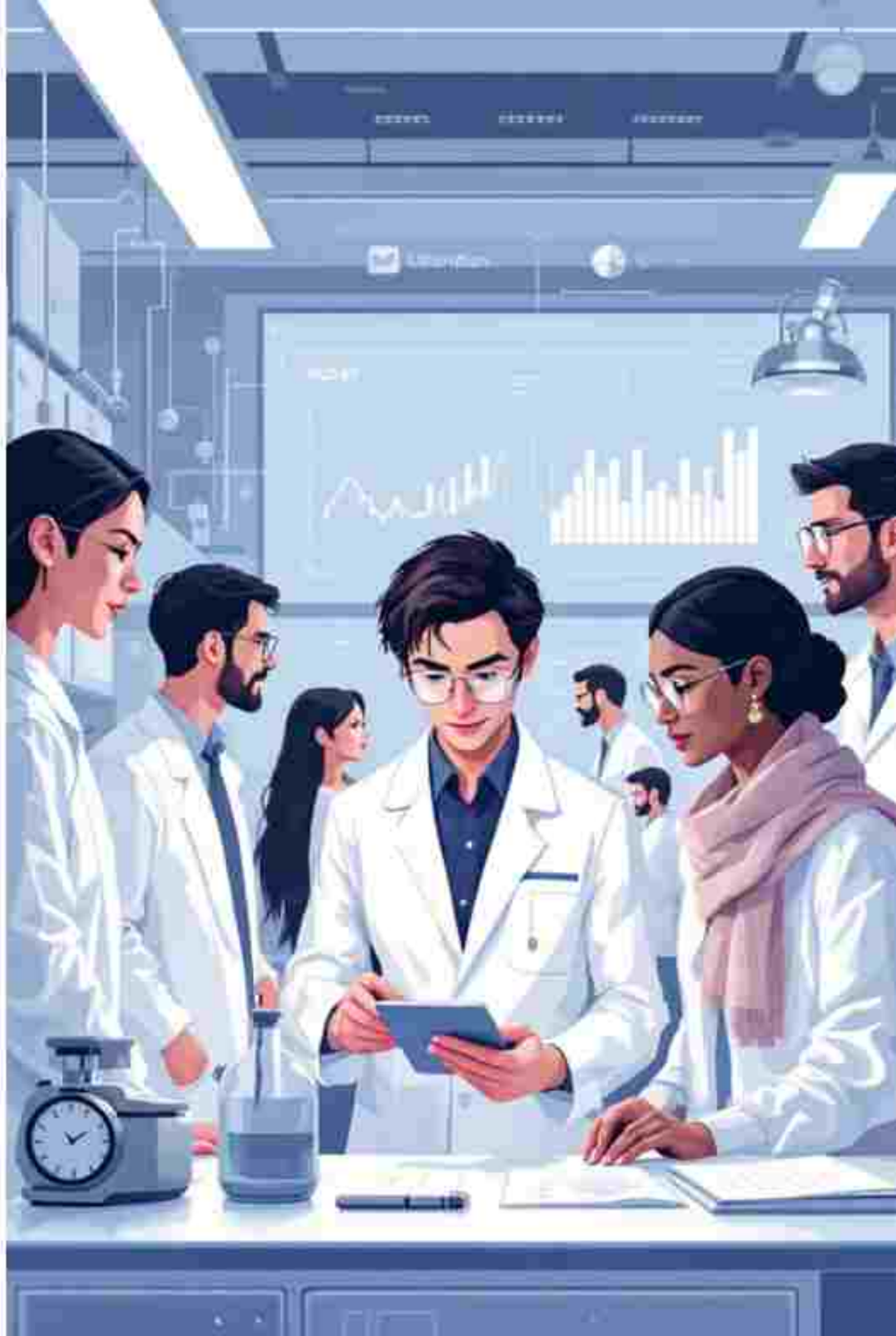
INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

6. Fostering-Global-Research-Partnerships

Fostering Global Research Partnerships

Advancing Ayurveda and Integrative Medicine through SDG 17



Agenda

The Power of Collaboration

01

Strategic Intent

Setting the foundation for impactful research partnerships.

02

Designing Frameworks

Building robust and ethical collaborative structures.

03

Operationalising Partnerships

Implementing activities for knowledge exchange and capacity building.

04

Measuring Impact

Documenting and reporting collaborative outcomes.

05

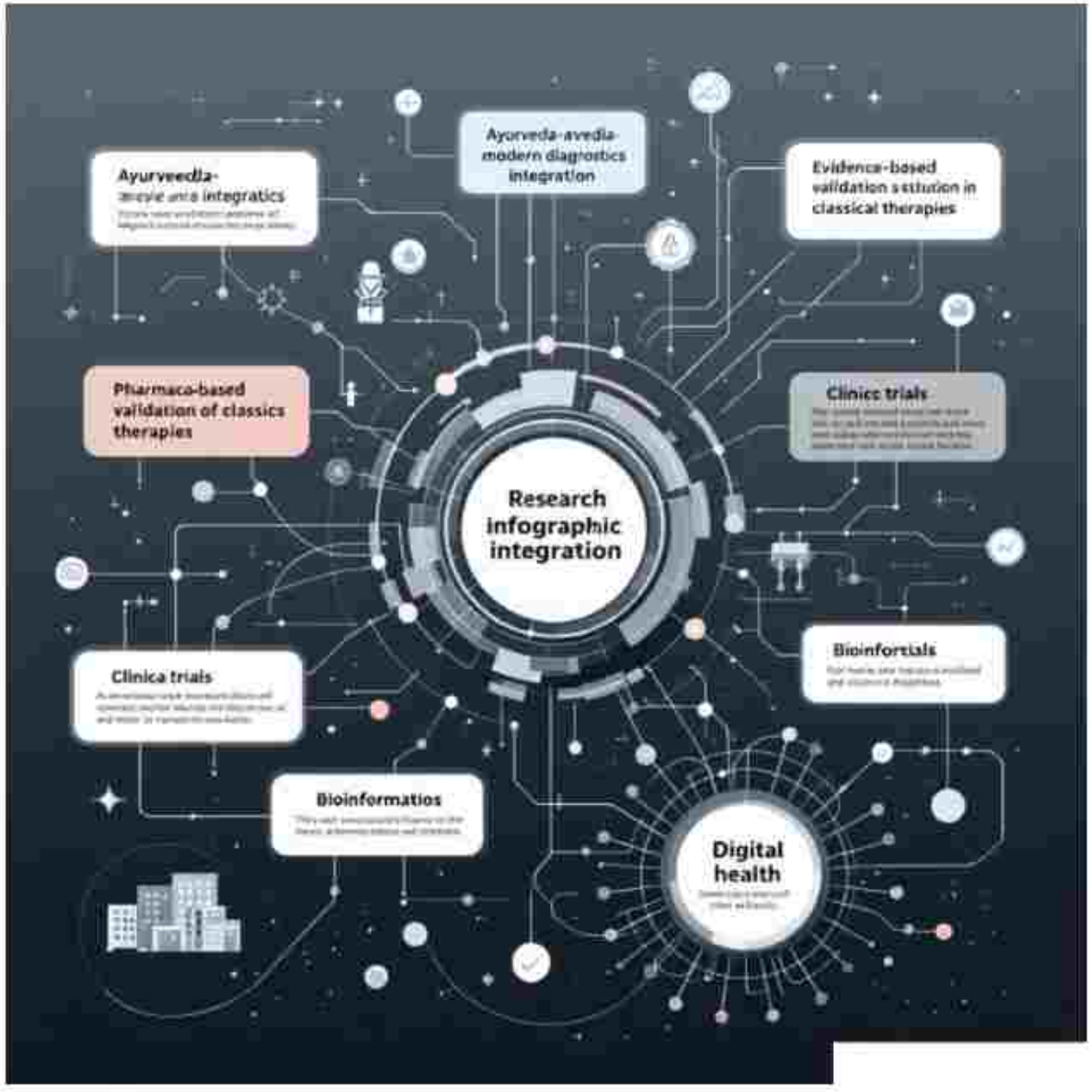
SDG 17: Partnerships

Aligning our efforts with global sustainable development goals.

Strategic Intent: Building Sustainable Partnerships

Identifying Priority Areas

Our initial focus is on identifying core research domains in Ayurveda and integrative medicine that resonate with both national health policies and global health agendas. This strategic alignment ensures our research is relevant and impactful.



Designing Frameworks: Formalising Collaboration

To ensure clarity and commitment, we establish formal agreements for all research collaborations. These frameworks provide a solid foundation for productive partnerships.

1

Clear Objectives

Define specific, measurable, achievable, relevant, and time-bound goals for each project.

2

Roles & Responsibilities

Clearly delineate the contributions and expectations of each partner.

3

Funding & Ethics

Outline financial arrangements and ensure robust ethical approval mechanisms are in place.

4

Expected Outcomes

Specify deliverables, intellectual property sharing, and dissemination plans.

Agreements may include Memoranda of Understanding (MoUs), Memoranda of Agreement (MoAs), and joint research project contracts.

Operationalising Partnerships: Fostering Exchange

Active engagement with diverse partners is crucial for knowledge exchange and innovation. We forge connections with a wide array of institutions and organisations.

Universities & Research Councils

Collaborating on cutting-edge research and academic exchange.

Pharmaceutical & IT Firms

Bridging research with practical application and technological advancement.

International Institutions & NGOs

Expanding our global reach and addressing global health challenges.

This multi-sectoral approach fosters resource sharing, knowledge exchange, and ultimately, innovation in Ayurveda and integrative medicine.

Building Capacity Through Shared Experiences

Beyond formal agreements, our partnerships are brought to life through dynamic activities designed to build capacity and share expertise.

- *Joint Seminars & Workshops*
- *Webinars & Online Training*
- *Exchange Programmes (Faculty & Student)*
- *Visiting Faculty Initiatives*
- *Student Mobility Programmes*
- *Multidisciplinary Research Hubs*

These initiatives facilitate direct interaction, enabling researchers and students to gain exposure to global best practices and advanced techniques, and fostering a collaborative research culture.

Measuring Impact: Comprehensive Documentation

Rigorous documentation is paramount to showcase the tangible outcomes and societal contributions of our collaborative research.

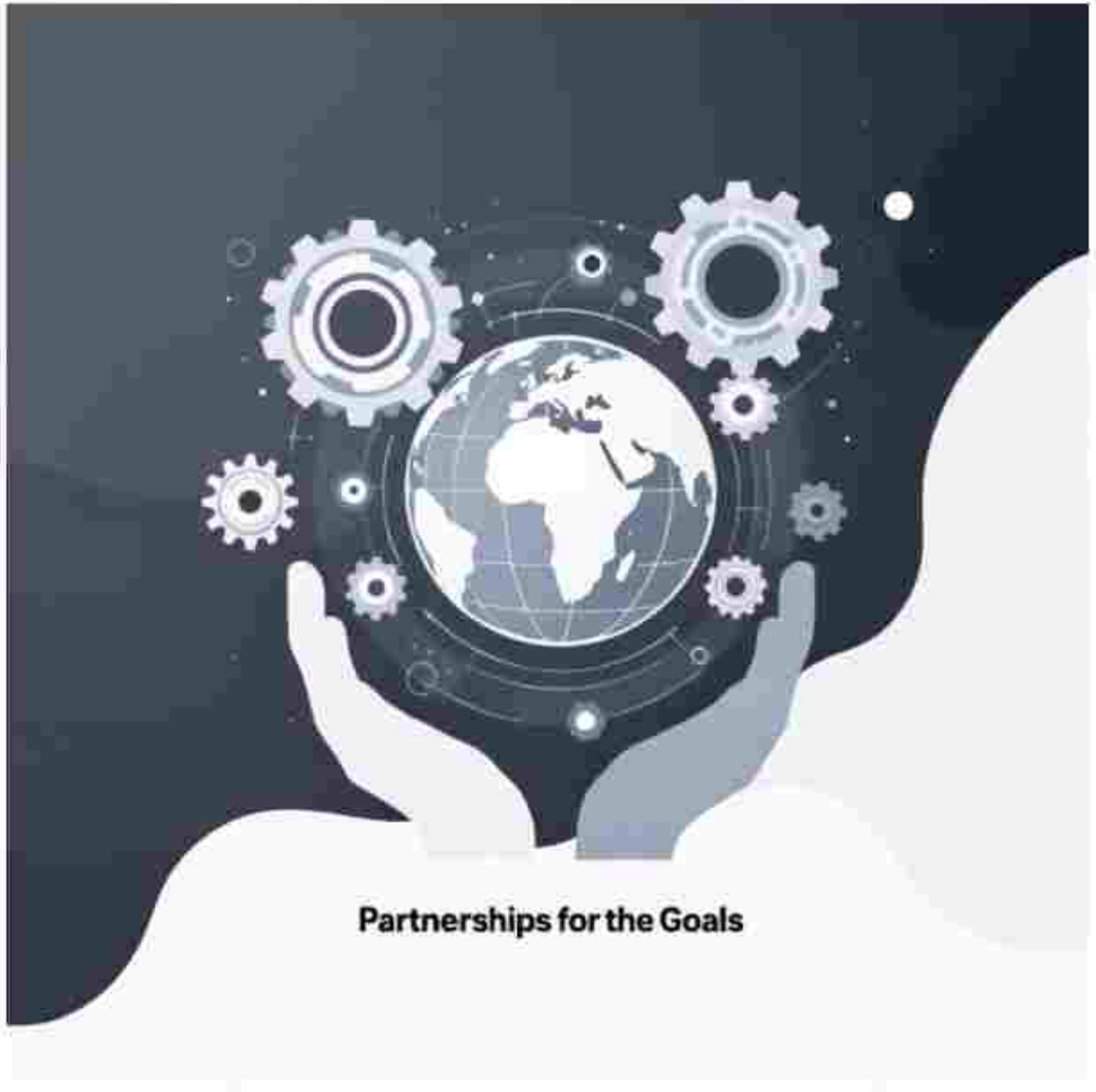
Key Metrics for Reporting Collaboration

Our reporting framework captures a wide range of indicators to demonstrate the breadth and depth of our partnerships.

Formal Agreements	*Signed MoUs, MoAs, Joint Project Titles*
Research Outputs	*Joint Publications, Patents, Research Grants Received*
Engagement Activities	*Collaborative Conferences Organised, Exchange Records (Students/Faculty)*
Impact Stories	*Real-world applications, Product Development, Policy Contributions*

A centralised collaboration registry tracks ongoing and completed projects, highlighting their relevance to SDGs and the number of beneficiaries.

SDG 17: Partnerships for the Goals



Our collaborative efforts directly contribute to Sustainable Development Goal 17, which emphasizes the critical role of ***strengthening global partnerships*** *to achieve the broader sustainable development agenda.*

By transcending institutional and national boundaries, we act as a ***knowledge hub****, fulfilling the spirit of this vital SDG.*

Conclusion & Next Steps

Enhanced Visibility

Strategic collaborations elevate our research profile and academic reputation globally.

Multiplier Effect

Partnerships create synergistic outcomes, validating and disseminating Ayurveda's strengths worldwide.

Sustainable Growth

Ensuring inclusive and sustained advancement of healthcare knowledge through shared innovation.

Let us continue to build these vital connections, contributing to a healthier and more sustainable future for all.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

7. Fostering-Impact-Consultancy-in-Ayurveda-and-Allied-Sciences

Fostering Impact: Consultancy in Ayurveda and Allied Sciences

Unlocking the potential of academic expertise for societal and industrial advancement.

AGENDA

1 Identifying Our Expertise & Policy Framework

Defining the scope and establishing a structured approach.

2 Designing Effective Consultancy Services

Establishing robust mechanisms for engagement and collaboration.

3 Systematic Reporting & Impact Assessment

Documenting outcomes and measuring contributions to SDGs.

Identifying Domains of Expertise

To effectively achieve consultancy, the first step is to identify areas of Ayurveda and allied sciences that can be extended to industry, healthcare, and government.

Ayurvedic Diagnostics & Pathology

Leveraging ancient diagnostic methods with modern pathological understanding.

Herbal Drug Standardisation

Ensuring quality control and efficacy of Ayurvedic formulations through scientific validation.

Digital Ayurveda Applications

Developing innovative digital solutions for health tracking and consultation.

Wellness & Preventive Healthcare

Designing modules focused on holistic well-being and disease prevention.

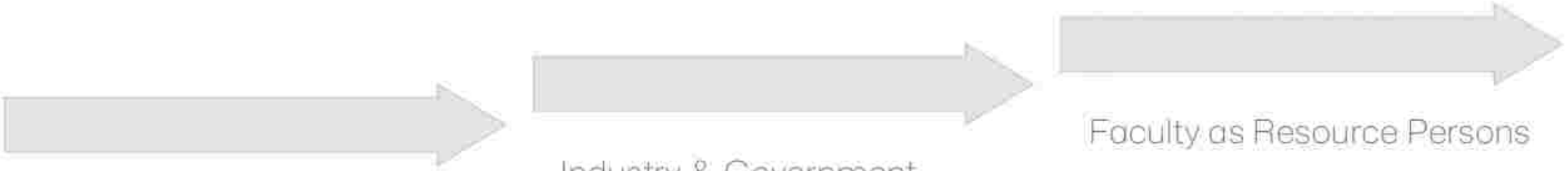
Developing a Structured Consultancy Policy

Once consultancy areas are defined, a robust policy framework is essential. This policy should encompass:

- *Faculty engagement protocols*
- *Clear revenue-sharing models*
- *Intellectual Property Rights (IPR) management*
- *Conflict of interest guidelines*
- *Ethical compliance standards*

Designing Consultancy Services

Establishing Consultancy Cells and Units



Single-Window System

Centralised units to receive, evaluate, and execute all consultancy projects efficiently.

Industry & Government Collaboration

Formalise partnerships through MoUs, calls for proposals, and active participation in academic conferences.

Faculty as Resource Persons

Leverage faculty expertise for problem-solving in herbal industries, wellness centres, hospitals, and public health programmes.

Integrating Research-Based Innovation (SDG 9)

Consultancy should directly contribute to SDG 9: Building resilient infrastructure, promoting inclusive and sustainable industrialisation, and fostering innovation.

1

Traditional Drug Validation

Scientific validation of traditional Ayurvedic formulations.

2

Clinical Trial Guidance

Providing expert support for clinical trial design and execution.

3

Digital Diagnostic Tools

Developing innovative digital tools for enhanced diagnostics.

4

Wellness Programme Development

Crafting evidence-based wellness and preventive health programmes.

These efforts ensure that our consultancy translates academic knowledge into tangible, innovative solutions for industry and society.

Systematic Reporting & Documentation

Every consultancy project must be meticulously documented to capture its full impact and ensure transparency.

Key Reporting Elements:

- *Client/Agency details*
- *Area of consultancy*
- *Faculty involved & duration*
- *Fees charged (if applicable)*
- *Deliverables & outcomes*

Tangible Outcomes Include:

- *New product design or technical reports*
- *SOP development & training modules*
- *Publications or patents generated*
- *Knowledge transfer and societal benefits*

This systematic approach highlights industrial problem-solving and capacity building in external organisations.

Strengthening Partnerships (SDG 17)

Our consultancy efforts significantly contribute to SDG 17: revitalising the global partnership for sustainable development.

Long-Term Engagements

Fostering sustained relationships with industries and government.

International Collaboration

Expanding our reach through partnerships with global agencies.

Mutual Growth

Creating win-win scenarios that benefit both academia and partners.

By building these bridges, we translate Ayurvedic knowledge into real-world applications, embodying the spirit of collaborative development.

Consolidated Annual Reports & Accreditation

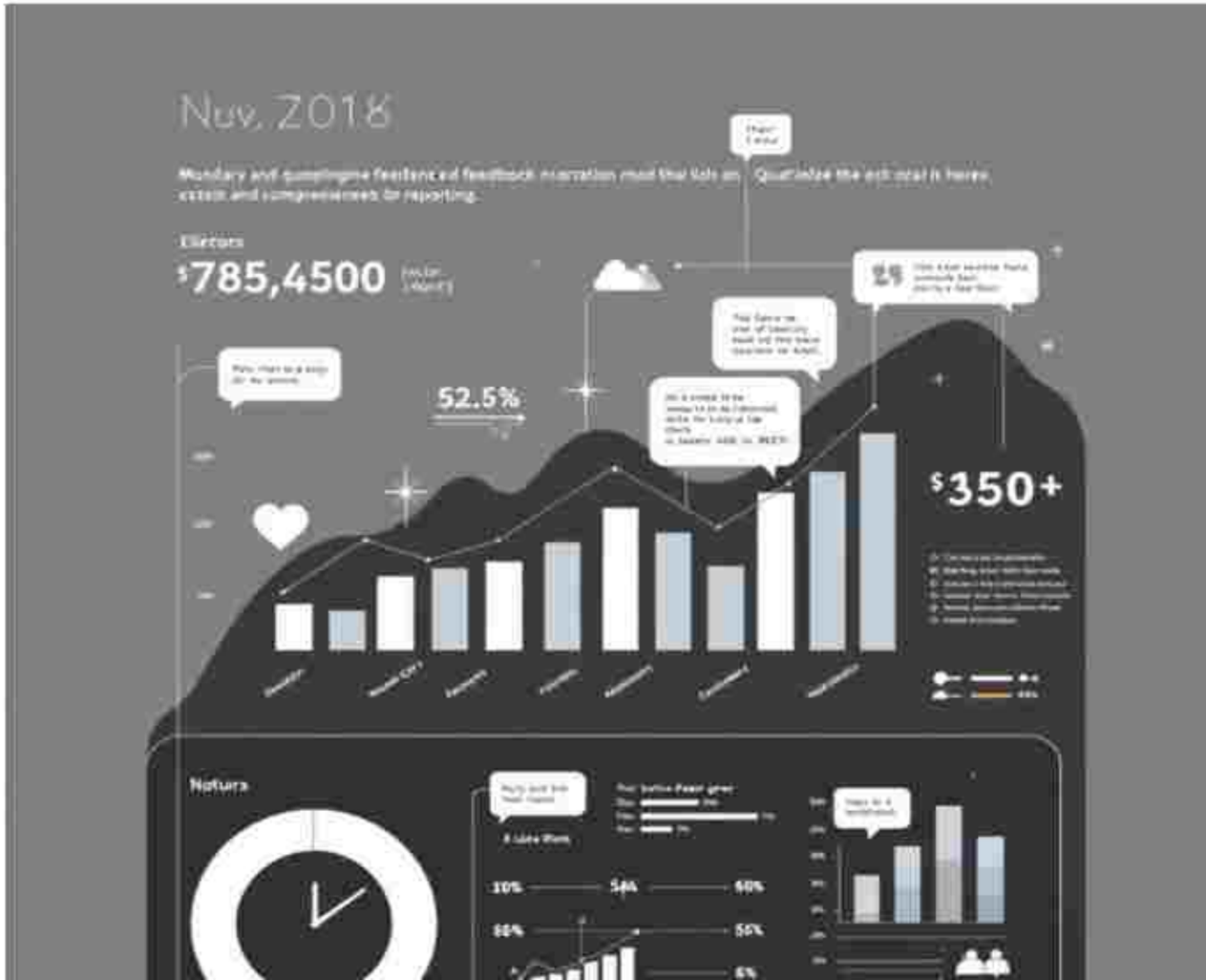
Annual reports must present both quantitative and qualitative indicators to demonstrate comprehensive impact.

Quantitative Indicators:

- *Number of consultancies undertaken*
- *Revenue generated from projects*
- *Number of beneficiaries reached*

Qualitative Indicators:

- *Success stories and detailed case studies*
- *Client feedback and testimonials*
- *Documented societal impact*



Key Takeaways & Next Steps

1

Strategic Domain Identification

Focusing our unique Ayurvedic expertise for maximum external value.

2

Robust Policy Implementation

Ensuring ethical, transparent, and efficient consultancy operations.

3

Integrated Innovation & Partnerships

Driving SDG 9 and SDG 17 through impactful collaborations.

4

Comprehensive Reporting

Demonstrating value, achieving accreditation, and fostering continuous growth.

Join us in transforming Ayurvedic knowledge into real-world solutions and impactful collaborations!

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

8. Research-Led-E-Courses-Advancing-Education-and-Innovation

Research-Led E-Courses: Advancing Education & Innovation

This presentation outlines a strategic framework for developing research-led e-courses, aligning academic innovation with global sustainable development goals.

Agenda

Our Strategic Framework for E-Course Development

1 The Vision: Research-Led Learning & SDGs

Connecting academic excellence with global impact.

2 Step 1: Needs Assessment & Curriculum Design

Identifying gaps and integrating cutting-edge research.

3 Step 2: Technological Development & Platform Selection

Choosing the right tools for dynamic learning experiences.

4 Step 3: Pilot Testing & Feedback Incorporation

Refining quality through iterative improvement.

5 Step 4: Implementation & Dissemination

Launching and expanding global reach.

6 Step 5: Reporting & Quality Assurance

Measuring impact and ensuring sustainability.

The Vision

E-Courses: Driving SDG 4 & SDG 9

*Our goal is to develop **research-led e-courses** that transform learning and contribute directly to the United Nations Sustainable Development Goals. This initiative moves beyond traditional education delivery to foster a dynamic, innovative, and accessible learning environment.*

- ***SDG 4: Quality Education***
  - *Inclusive & equitable access to advanced knowledge*
  - *Promoting lifelong learning opportunities*
- ***SDG 9: Industry, Innovation, & Infrastructure***
  - *Strengthening educational technology infrastructure*
  - *Fostering innovation in learning methodologies*

Step 1

Needs Assessment & Curriculum Design

The foundational step involves identifying critical gaps in traditional learning paradigms where e-courses can provide significant value, particularly in ***research-intensive areas****. This includes niche subjects, interdisciplinary studies, and cutting-edge methodologies.*

Collaboration is key: ***faculty members, research scholars, and curriculum committees*** *will collectively design syllabi. This ensures the integration of both* ***classical knowledge*** *(e.g., in Ayurveda or medical sciences) and* ***contemporary research findings****. The curriculum will also incorporate the latest research methodologies, ensuring students are equipped with up-to-date skills.*

This step directly supports ***SDG 4*** *by making advanced, relevant knowledge accessible beyond physical classroom limitations, fostering inclusive and equitable learning.*

Step 2

Technological Development & Platform Selection

Selecting the appropriate e-learning platform is crucial for delivering a seamless and engaging learning experience. Options like Moodle, SWAYAM, or customised Learning Management Systems (LMS) will be evaluated based on scalability, functionality, and user-friendliness.

Multimedia Content

Content will be developed in diverse multimedia formats, including videos, animations, interactive case studies, and simulations, catering to varied learning styles.

AI-Enabled Tools

Integration of AI-enabled adaptive learning tools will personalise learning paths, providing tailored support and challenges to students.

Virtual Labs

Development and integration of virtual laboratories will provide hands-on research experience, fostering innovation and practical skills remotely.

*This focus on advanced technology reinforces our commitment to **SDG 9** by building robust educational infrastructure and promoting innovation.*

Step 3

Pilot Testing & Feedback Incorporation

Before widespread deployment, a rigorous pilot testing phase is essential. A diverse group of students and faculty will engage with the e-course modules to provide comprehensive feedback.

Key Feedback Areas

- ***User Interface & Experience:*** *Ease of navigation, clarity of design.*
- ***Technical Reliability:*** *Platform stability, multimedia playback, assessment functionality.*
- ***Content Accuracy & Relevance:*** *Up-to-dateness of research, pedagogical effectiveness.*
- ***Accessibility:*** *Ensuring compliance with accessibility standards for all learners.*

Step 4

Implementation & Dissemination

Upon successful pilot testing and refinement, e-courses will be officially launched and strategically disseminated to maximise reach and impact.

Institutional Launch

Integration into university portals and academic catalogues, making courses readily available to enrolled students.

Wider Promotion

Promotion through government e-learning repositories (e.g., SWAYAM in India) and international academic collaborations.

MOOC Compatibility

Designing courses to be MOOC-compatible for a global audience, amplifying academic and societal impact.

This broad dissemination strategy ensures that our research-led learning reaches a diverse and expansive learner base, contributing to global education initiatives.

Step 5

Reporting & Quality Assurance

Comprehensive reporting and continuous quality assurance are vital for demonstrating impact and ensuring the long-term sustainability and credibility of our e-courses.

Key Metrics	• *Course enrollments & completion rates* • *Student demographics & geographic reach* • *Impact on research skill development & employability* • *Innovation outcomes and intellectual property generation*
Quality Mechanisms	• *Regular accreditation processes* • *Ongoing peer-review by subject matter experts* • *Student satisfaction surveys & feedback loops*

*These measures ensure our e-courses continually meet high academic standards and effectively contribute to **SDG 4** (inclusive access) and **SDG 9** (strengthening educational technology and fostering innovation).*

Key Takeaways

Strategic Design

Systematic curriculum design integrating cutting-edge research.

Quality & Impact

Rigorous testing and transparent reporting for continuous improvement.

Technological Innovation

Leveraging multimedia, AI, and virtual labs for enhanced learning.

> *"By integrating research directly into e-course development, we not only elevate academic standards but also directly address global challenges outlined in the SDGs."*

Next Steps

To advance this initiative, we propose the following immediate actions:

- ***Form Working Group:*** *Establish a cross-functional team of faculty, researchers, IT, and administrative staff.*
- ***Platform Review:*** *Conduct a detailed review of potential e-learning platforms and associated costs.*
- ***Pilot Course Identification:*** *Select 1-2 research-intensive areas for initial e-course development.*
- ***Funding Proposal:*** *Develop a detailed proposal for internal and external funding opportunities.*
- ***Timeline Development:*** *Create a comprehensive project timeline with clear milestones and deliverables.*

Your continued support and collaboration are vital to successfully implementing this transformative vision for research-led education.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

9. Enhancing-Research-Impact-Aligning-Faculty-Contribution-with-SDG-9

Enhancing Research Impact: Aligning Faculty Contribution with SDG 9

Welcome to this presentation on a structured framework designed to empower faculty research and systematically align its output with Sustainable Development Goal 9: Industry, Innovation, and Infrastructure. We will explore how institutions can foster a vibrant research ecosystem that not only produces high-quality academic work but also drives tangible societal and industrial impact.

Agenda

A Structured Approach to Research Output

01

Capacity Building & Prioritisation

Equipping faculty with essential research skills and focus.

02

Planning & Execution

Engaging in high-impact research activities.

03

Documentation & Dissemination

Recording and sharing research outcomes effectively.

04

Integration into Teaching & Knowledge Transfer

Translating research into educational and practical applications.

05

Reporting & Impact Assessment

Measuring and communicating the societal impact of research.

Step 1

Capacity Building & Prioritisation

Encouraging faculty to undertake research projects directly relevant to institutional goals, pressing healthcare needs, and evolving global challenges is paramount. This initial phase focuses on nurturing a research-oriented mindset.

- ***Workshops & FDPs:*** *Regular training in advanced research methodologies, sophisticated data analysis techniques, and ethical publishing practices.*
- ***Research Competency:*** *Enhancing skills vital for rigorous and impactful inquiry.*

Step 2

Planning & Execution of Research Work

Independent & Collaborative Research

Faculty should engage in self-directed projects and foster collaborative ventures with industry partners and other academic institutions. Interdisciplinary studies are particularly encouraged to address complex challenges.

Publication Focus

Prioritise publishing original articles, comprehensive review papers, detailed case studies, and insightful book chapters in highly reputed, peer-reviewed, and internationally indexed journals.

Prioritising Innovation

Emphasis on securing patents, developing disruptive innovations, and conducting translational research. These outputs directly strengthen the critical link between academic knowledge and practical industrial applications, fulfilling the core tenets of SDG 9.

Step 3

Documentation & Dissemination of Research Output

A dedicated centralised research cell or an Internal Quality Assurance Cell (IQAC) must meticulously maintain comprehensive records of all faculty research outputs. This includes:

- *Academic Publications (journal articles, books, chapters)*
- *Citation Metrics (total citations, h-index)*
- *Patents Filed and Granted*
- *Secured Funded Projects*
- *Registered Innovations*

Step 4

Integration into Teaching & Knowledge Transfer

Curriculum Integration

Research findings should be seamlessly integrated into teaching-learning modules and course content, providing students with cutting-edge, real-world insights.

Student Research Projects

Actively involve students in ongoing faculty research, fostering their critical thinking, analytical skills, and hands-on experience in problem-solving.

Community Outreach

Ensure that innovations and research outcomes reach relevant stakeholders, including learners, practitioners, policymakers, and the broader society, bridging the gap between theoretical knowledge and practical application.

This step ensures that the knowledge generated within the university's laboratories and research centres translates into tangible benefits and advancements for society.

Step 5

Reporting & Impact Assessment

Annual research reports are crucial for highlighting the multifaceted contributions of faculty. These reports should provide a comprehensive overview, categorized under key headings:

Publications	*National and International peer-reviewed articles.*
Intellectual Property	*Patents filed and granted.*
Funded Projects	*Details of grants and research funding secured.*
Consultancy Works	*Engagements with industry and external organisations.*
Knowledge Transfer	*Invited talks, workshops, and collaborations.*

Beyond Numbers: Quality & Influence

The true impact of faculty research extends far beyond mere numerical counts. Assessment should deeply evaluate:

- ***Quality of Innovation:*** *The novelty, originality, and potential for disruption inherent in the research outcomes.*
- ***Contribution to Industry:*** *The direct application and adoption of research findings by commercial enterprises, leading to new products, processes, or services.*
- ***Influence on Infrastructure Development:*** *How research informs and contributes to the creation or improvement of sustainable and resilient infrastructure systems.*

Mapping to SDG 9

*Crucially, annual reports must explicitly detail how faculty research contributes to **SDG 9: Industry, Innovation, and Infrastructure**. This involves clear mapping of research outcomes to the specific targets of the goal:*

- ***Building Resilient Infrastructure:** Research that supports the development of sustainable, robust, and accessible infrastructure, including transport, energy, and communication systems.*
- ***Promoting Inclusive and Sustainable Industrialisation:** Work that fosters sustainable industrial growth, technological upgrading, and resource efficiency.*
- ***Fostering Innovation:** Research that drives scientific and technological innovation, increasing the number of researchers and boosting public and private research and development spending.*

A Strategic Research Ecosystem

Faculty contribution in research output becomes truly impactful when integrated into a supportive and strategic framework. By emphasizing capacity building, systematic execution, transparent documentation, and clear mapping to innovation outcomes, institutions can build a robust research ecosystem. This structured approach not only strengthens the institution's academic standing but critically advances the global objectives of SDG 9, contributing to a more innovative, industrialized, and sustainable future.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

10. Fostering-Innovation-HEI-Collaboration-for-SDG-Impact

Fostering Innovation: HEI Collaboration for SDG Impact

This presentation outlines a strategic framework for Higher Education Institutions (HEIs) to collaborate with incubation centres, driving sustainable development through industry, innovation, and impactful partnerships.

Why Collaboration Matters

Bridging Academia and Societal Needs

SDG 9: Industry & Innovation

Developing resilient infrastructure, promoting inclusive industrialisation, and fostering innovation.

SDG 8: Decent Work & Growth

Promoting sustained, inclusive, and sustainable economic growth, full and productive employment.

SDG 17: Partnerships

Strengthening the means of implementation and revitalising the global partnership for sustainable development.

A structured ecosystem linking academic research, innovation, and entrepreneurship with industry and societal needs is crucial for achieving these Sustainable Development Goals.

Step 1: Establish Institutional Linkages

The foundational step involves formalising partnerships with established incubation centres. This ensures a robust support system for academic innovation.

- ***MoUs with Government-Supported Incubators:*** *Engage with entities like Startup India or Atal Incubation Centres.*
- ***University-Based Hubs:*** *Connect with existing innovation hubs within other HEIs.*
- ***Private Incubators:*** *Explore collaborations with industry-led or independent incubators.*

These linkages provide faculty and students with vital access to mentoring, prototyping facilities, business development services, and crucial seed funding opportunities, directly fostering SDG 9.

Step 2: Capacity Building & Sensitisation

Cultivating a culture of innovation and entrepreneurship requires dedicated programmes to equip faculty and students with essential skills and knowledge.

1

Workshops & Seminars

Focused sessions on ideation, intellectual property rights (patenting), and market research.

2

Hackathons & Bootcamps

Intensive, hands-on programmes for rapid prototype development and problem-solving.

3

Commercialisation Training

Guidance on turning academic research into viable products and services.

These programmes contribute significantly to SDG 8 by developing future-ready graduates capable of creating start-ups and generating employment opportunities.

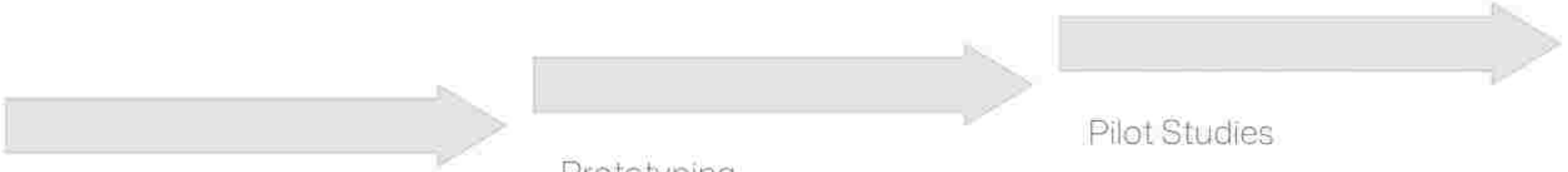
Step 3: Collaborative Project Design

Engaging with incubators to refine research-based ideas into workable business models and technological solutions, encouraging interdisciplinary approaches.

- ***Incubator Engagement:*** *Presenting research ideas for screening and intensive mentoring.*
- ***Business Model Refinement:*** *Developing robust strategies for market entry and sustainability.*
- ***Interdisciplinary Teams:*** *Fostering collaboration across fields like Ayurveda, medical sciences, technology, and social sciences.*
- ***Industry & Government Partnerships:*** *Building symbiotic relationships that align with SDG 17.*

Step 4: Execution & Prototype Development

Translate refined ideas into tangible outputs under expert guidance, ensuring alignment with societal needs.



Proof-of-Concept

Developing initial evidence to validate the feasibility of an idea.

Prototyping

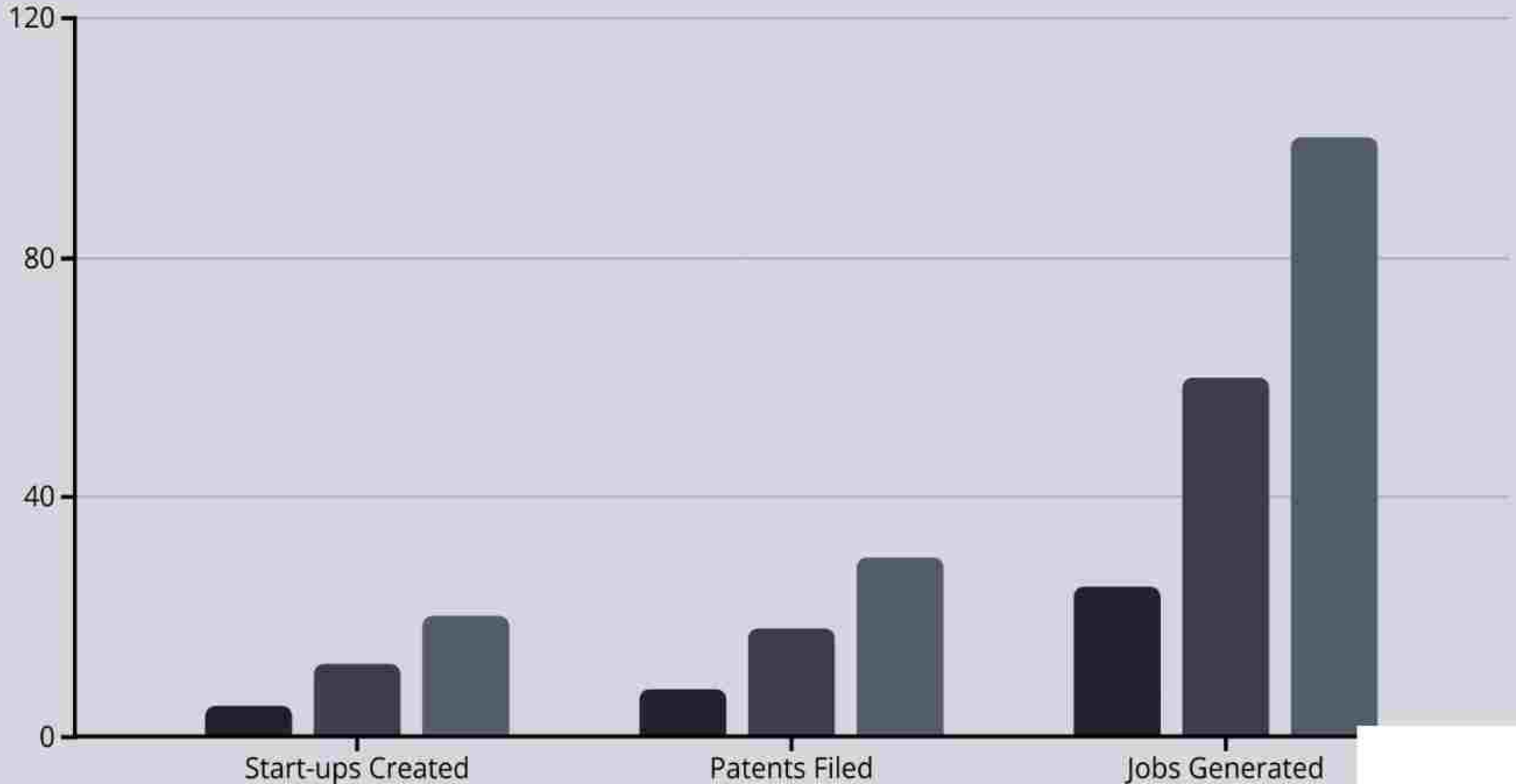
Creating functional models for testing and refinement.

Pilot Studies

Conducting small-scale implementations to assess impact and scalability.

These outputs should directly address community needs, healthcare challenges, or sustainable development priorities. Rigorous documentation of progress at each stage is vital, capturing contributions from faculty, students, and industry experts.

Step 5: Monitoring, Evaluation, & Scaling Up



Step 6: Reporting & Dissemination

Transparent and comprehensive reporting is essential for demonstrating impact and reinforcing accountability.

- ## Annual Innovation & Incubation Report

  A detailed publication highlighting key achievements and progress.

- ## Collaboration Overview

  Details on MoUs signed and partnerships established with incubation centres.

- ## Quantifiable Outcomes

  Number of student/faculty ideas incubated, start-ups created, patents filed/granted, and products/services launched.

- ## Socio-Economic Impact

  Employment generated, revenue models established, and case studies on community impact.

These reports should explicitly map outcomes to SDG 8, SDG 9, and SDG 17, demonstrating the translation of academic research into tangible sustainable development.

Key Takeaways

Building an Ecosystem for Impact

Strategic Partnerships

Formalise linkages with incubators to provide robust support.

Culture of Innovation

Invest in capacity building for faculty and students.

Impact Measurement

Systematically monitor and report on outcomes aligned with SDGs.

By following these steps, HEIs can become powerful engines for innovation, economic growth, and sustainable development, making a tangible difference in their communities and beyond.

Next Steps: Your Role in Driving Change

- ***Review & Strategise:*** *Evaluate existing institutional capabilities and identify potential incubator partners.*
- ***Allocate Resources:*** *Secure funding and dedicated personnel for innovation and incubation initiatives.*
- ***Implement Pilots:*** *Start with small-scale projects to build momentum and gather initial data.*
- ***Foster Collaboration:*** *Encourage interdisciplinary research and industry engagement.*
- ***Share Success:*** *Actively report outcomes and celebrate achievements to inspire further participation.*

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

11. Enhancing-Higher-Education-for-Sustainable-Development-Goals

Enhancing Higher Education for Sustainable Development Goals

A strategic framework for integrating workshops to advance Quality Education and Industry, Innovation & Infrastructure.

Introduction

Workshops as Catalysts for SDG Alignment

Workshops, when strategically integrated, serve as powerful tools within higher education to foster both academic excellence and practical innovation. This framework outlines a comprehensive approach to leverage these activities, ensuring they contribute directly to SDG 4 (Quality Education) and SDG 9 (Industry, Innovation & Infrastructure).

By adopting a structured methodology, universities can transform sporadic events into systemic drivers of sustainable development, enhancing knowledge, skills, and research capacity across disciplines.

Phase 1: Strategic Planning

1. Need Identification & Goal Setting

Academic departments must identify precise knowledge gaps in advanced research, diagnostics, clinical training, or data management. Workshops should be purposeful, relevant, and aligned with institutional vision.

SDG 4 Alignment: *Focus on quality education and skill-building relevant to contemporary challenges.*

SDG 9 Alignment: *Strengthen research and innovation infrastructure by addressing specific sectoral needs.*

2. Design & Planning

This stage involves preparing a comprehensive concept note, defining clear learning objectives, and identifying target participants (students, scholars, faculty). The structure—lectures, hands-on, case studies—must be finalised.

SDG 9 Enhancement: *Crucially, forge collaborations with experts from academia, industry, and incubation centres to build vital research-industry-academic linkages.*

Phase 2: Implementation & Action

3. Execution of the Workshop

Organise sessions with interactive pedagogy, live demonstrations of innovative tools, and hands-on practice. Faculty should act as facilitators, promoting active participation and collaborative learning.

***Key:** Maintain systematic documentation of participants, resource persons, session details, and photographs for future reference and reporting.*

4. Assessment & Feedback

Implement pre- and post-workshop evaluations to measure skill and knowledge enhancement. Analyse feedback to assess effectiveness, resource adequacy, and future needs, fostering continuous improvement.

***SDG 4 Impact:** This reflective practice directly strengthens quality assurance mechanisms within educational programmes.*

Phase 3: Impact & Integration

5. Follow-up & Integration

Track workshop outcomes: new skills, project ideas, prototypes, or collaborative research proposals. Encourage students to apply acquired skills in coursework and research, and integrate innovations into the curriculum or laboratory practice.

SDG 9 Achievement: *This step is crucial for building robust research infrastructure and fostering a culture of innovation.*

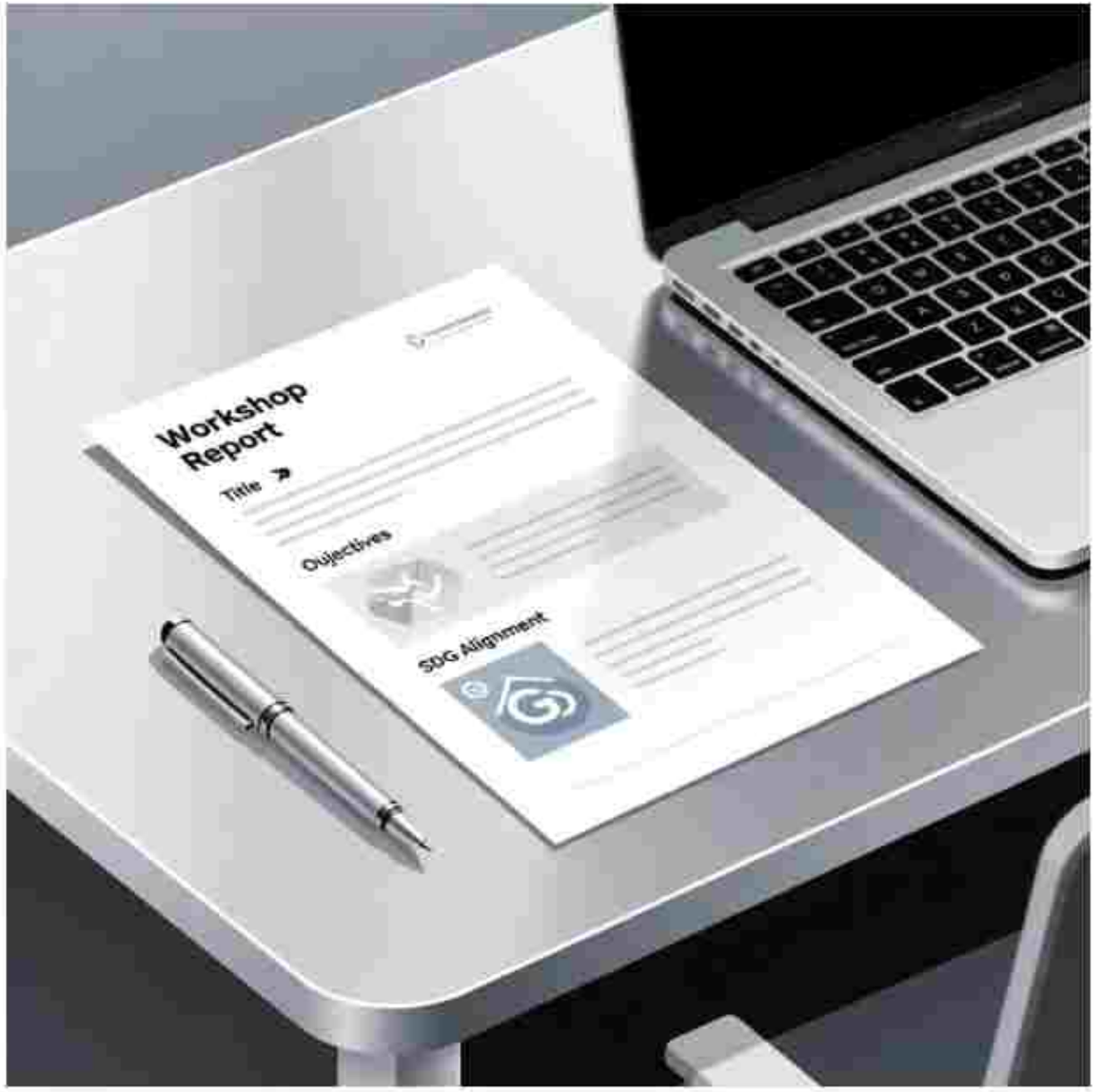
6. Reporting & Dissemination

Each workshop requires a standardised report detailing objectives, SDG alignment, participants, sessions, and outcomes. This ensures transparency and provides a basis for institutional-level reporting.

Visibility: *Compile an Annual Workshop Report to highlight overall impact and contribution to SDGs.*

The Standardised Workshop Report

- ***Title & Details:*** *Workshop name, date, venue, and theme.*
- ***Objectives & Alignment:*** *Clear objectives and explicit links to SDG 4 and SDG 9.*
- ***Participants & Resource Persons:*** *Comprehensive lists of attendees and facilitators.*



This structured approach ensures comprehensive documentation, facilitating accountability and demonstrating tangible contributions to the Sustainable Development Goals.

Key Metrics for Impact

100%

SDG Alignment

Ensure every workshop explicitly links to relevant SDGs, fostering a mission-driven approach to education and research.

75%

Participant Satisfaction

Target a minimum of 75% positive feedback on workshop relevance, content, and delivery through post-event evaluations.

50%

Collaboration Rate

Aim for at least 50% of workshops to feature external collaborators from industry, other universities, or incubation centres.

The Annual Workshop Report: Demonstrating Institutional Commitment

*The **Annual Workshop Report** provides a high-level overview of the institution's engagement and impact. It aggregates data from individual workshop reports, showcasing:*

- *Total number of workshops conducted or attended.*
- *Overall participation rates, including faculty, scholars, and students.*
- *Volume and nature of external collaborations initiated or strengthened.*
- *Quantifiable research outputs (e.g., projects, papers) inspired by workshop activities.*
- *Examples of integration into teaching-learning processes and curriculum development.*

Mapping Outcomes to SDGs

Capacity Building

Workshops strengthen skills and staff

Research Outputs

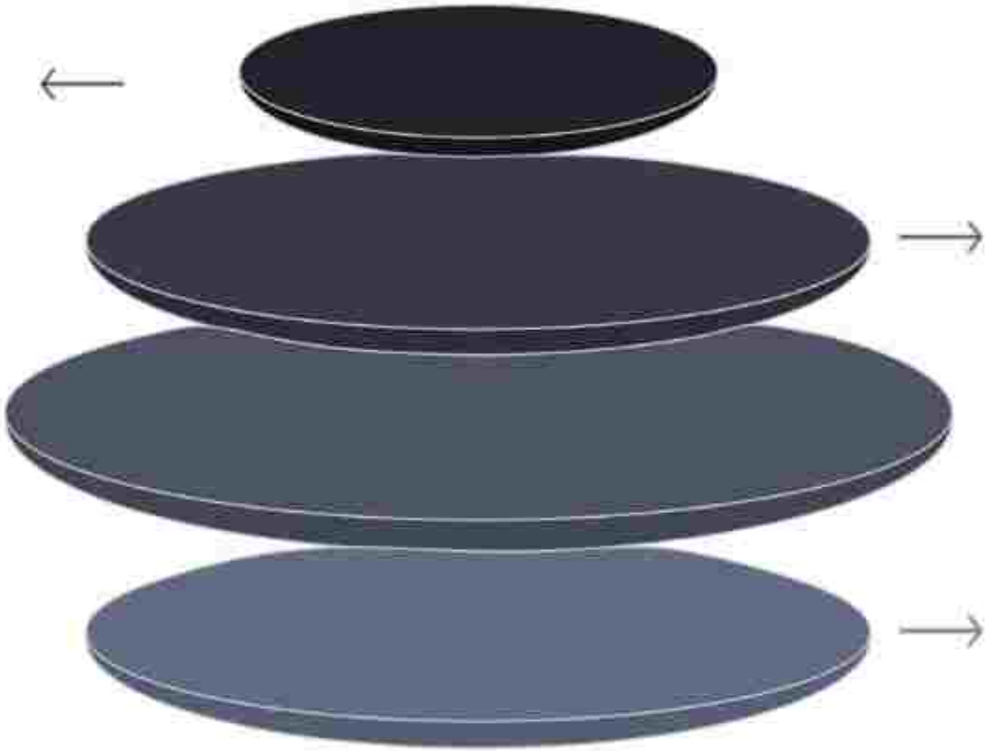
Publications and applied studies produced

Innovation Ecosystem

Startups, labs, and industry partnerships

Curriculum Integration

SDG-aligned courses and modules adopted



This mapping demonstrates the institution's proactive commitment to global sustainable development agendas, showcasing tangible contributions beyond traditional academic metrics.

Next Steps & Call to Action

Empowering Sustainable Growth Through Education & Innovation

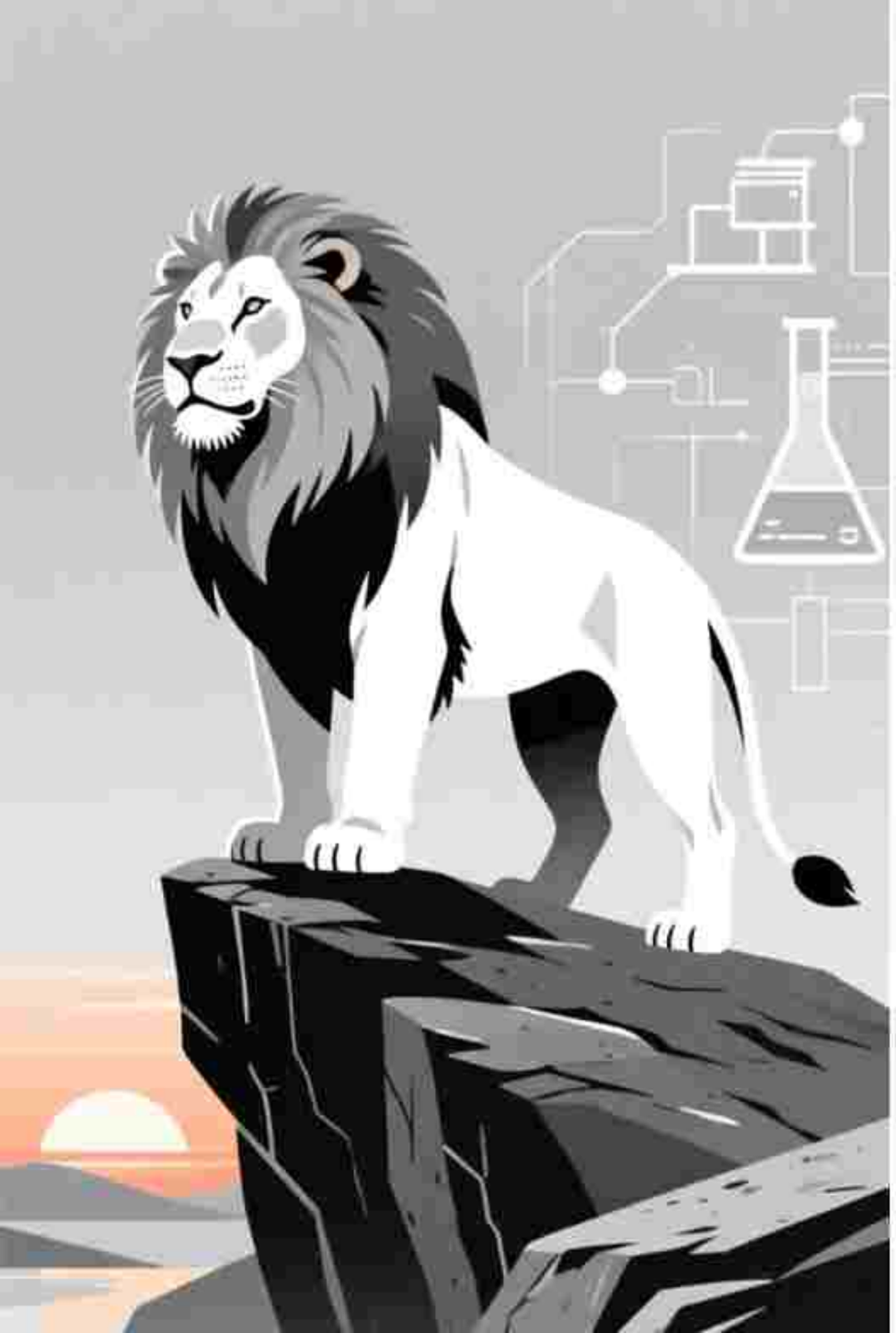
- ***Implement Framework:*** *Roll out the structured workshop framework across all departments.*
- ***Train Stakeholders:*** *Provide training on reporting and SDG alignment for faculty and administrators.*
- ***Monitor & Evaluate:*** *Regularly assess impact and adjust strategies for continuous improvement.*
- ***Disseminate Success:*** *Share Annual Workshop Reports widely to highlight institutional leadership.*

By integrating these practices, we can significantly enhance our contribution to ***Quality Education*** *and* ***Industry, Innovation & Infrastructure****, creating a lasting impact on our community and beyond.*

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

12. Integrating-Animal-Facilities-with-SDGs-A-Holistic-Approach



Integrating Animal Facilities with SDGs: A Holistic Approach

Navigating the Nexus: Science, Ethics, and Sustainability

Our objective is to align Animal House activities with two critical Sustainable Development Goals: SDG 3 (Good Health & Well-being) and SDG 15 (Life on Land). This demands a delicate balance between advancing biomedical research for human health and ensuring ethical, sustainable care for animal life. It's about achieving scientific progress while upholding our responsibility towards biodiversity, animal welfare, and ecological equilibrium.

Step 1: Foundational Infrastructure and Compliance

Purpose-Built Design

Adhere to national and international regulatory frameworks (e.g., CPCSEA).

Optimal Conditions

Ensure proper housing, ventilation, lighting, and feed supply.

Comprehensive Support

Provide veterinary care and effective waste management systems.

This step ensures a safe, ethical, and compliant research environment, directly contributing to SDG 3 by supporting health-related experiments and SDG 15 by upholding ethical treatment of terrestrial life.

Step 2: Ethical Oversight and Approval

Before any animal activity commences, strict ethical review and approval are mandatory. The Institutional Animal Ethics Committee (IAEC) plays a pivotal role in this process, ensuring a transparent and accountable governance system for all animal-related research.

A core tenet of this approval process is the rigorous application of the 3R principles:

1

Replacement

Utilising alternative methods over animal use where possible.

2

Reduction

Minimising the number of animals used in research.

3

Refinement

Improving experimental procedures to minimise animal suffering.

This commitment directly supports SDG 15 by minimising harm to animals and promoting ethical alternatives.

Step 3: Rigorous Operational Management

Effective daily management is crucial for animal welfare and research integrity. This encompasses:

- ***Daily Care & Hygiene:*** *Consistent feeding, health monitoring, and maintaining impeccable hygiene in animal enclosures.*
- ***Veterinary Oversight:*** *Dedicated veterinary staff to track animal welfare parameters and provide early intervention for any health concerns.*
- ***Detailed Record Keeping:*** *Meticulous records of breeding, mortality, and experimental use to ensure accountability and transparency.*

This operational excellence strengthens SDG 3 by ensuring high-quality animals for health research and SDG 15 by ensuring humane stewardship of animal life.

Step 4: Integration into Research and Training

Animal house activities are vital for supporting preclinical studies across various disciplines, including pharmacology, toxicology, and traditional medicine research. This contributes significantly to new discoveries and understandings in human health.

Dual Responsibility

Faculty and students must be educated on both the scientific importance (SDG 3) and the ethical obligations (SDG 15) associated with animal research.

Continuous Training

Step 5: Sustainability and Environmental Stewardship

Eco-Friendly Waste Disposal

Treat waste (bedding, feed residues, biological material) through incineration or composting to minimise ecological harm.

Biodiversity Protection

Implement measures to reduce overbreeding, prevent inbreeding, and ensure species-specific enrichment.

Minimising Ecological Footprint

Ensure all activities contribute to the broader goals of ecological balance and environmental preservation.

These practices directly contribute to SDG 15 by promoting sustainable resource use and biodiversity protection.

Step 6: Comprehensive Documentation and Reporting

Rigorous documentation is fundamental for accountability and transparency. All activities must be meticulously recorded in compliance registers, including:

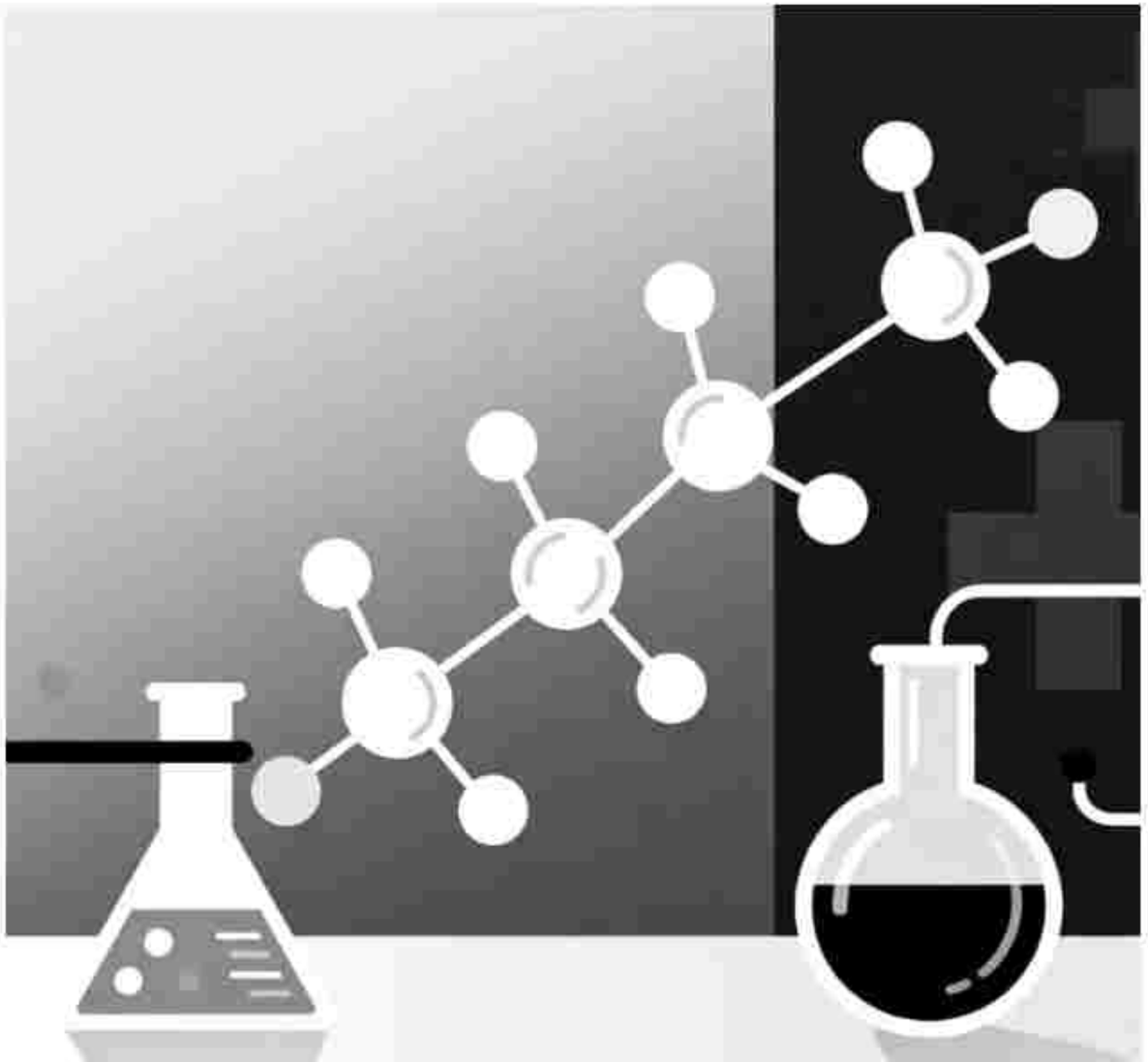
- *Procurement, breeding, and usage data.*
- *Experimental studies and mortality records.*
- *Disposal procedures.*

> ## Annual Animal House Report
>
> *A detailed annual report should be prepared, covering:*
>
> - *Number and type of animals housed and used.*
> - *Research projects supported and their outcomes linked to human health (SDG 3).*
> - *Welfare practices, ethical clearances, and training conducted.*
> - *Measures taken for sustainable animal resource use and biodiversity protection (SDG 15).*
> - *Innovations in reducing animal use, including adoption of in vitro or in silico models.*

Step 7: Impact Assessment and Dissemination

Showcasing Human Health Benefits

Outcomes of animal studies should be clearly reported, highlighting contributions to new drug development, safety validation, and disease understanding, directly supporting SDG 3.



Promoting Ethical & Ecological Stewardship

Institutional communications must also emphasise ethical care, biodiversity preservation, and ecological safeguards, aligning with SDG 15.

Key Takeaways and Next Steps

Achieving a holistic approach to animal facilities means integrating scientific rigor with ethical responsibility. By aligning with SDG 3 and SDG 15, we not only advance critical research but also champion the welfare of animal life and the health of our planet.

Commit to 3Rs

Continuously seek alternatives, reduce animal use, and refine procedures.

Invest in Training

Empower staff and students with robust bioethics and handling education.

Ensure Transparency

Maintain meticulous records and publish comprehensive reports.

Innovate Sustainably

Explore new models and eco-friendly practices in facility management.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

13. Harnessing-Herbal-Gardens-A-Strategic-Approach-to-SDG-15

Harnessing Herbal Gardens: A Strategic Approach to SDG 15

Introduction: Why Data-Driven Herbal Gardens Matter

University herbal gardens are more than just green spaces; they are living laboratories and vital repositories of biodiversity. By systematically documenting their usage, we can align our educational and research activities with global sustainability goals, particularly ***SDG 15: Life on Land****. This presentation outlines a comprehensive framework for achieving, designing, and reporting on herbal garden usage data, ensuring both academic excellence and ecological responsibility.*

Steps to Achieve: Documenting & Sustaining Biodiversity

Species Diversity Documentation

Create a digital database for all medicinal plants, including botanical names, Ayurvedic names, family, therapeutic uses, and conservation status (rare, endangered, threatened). This provides a foundational inventory.

Systematic Usage Logging

Implement usage logbooks and digital records for all plant material used by faculty, researchers, and students. This captures data on usage for teaching, drug preparation, or research.

Research Protocol Integration

Mandate clear documentation within research protocols, specifying plant source, quantity, and purpose when herbal garden plants are utilised.

Ethical Collection & Replantation

Adopt sustainable practices, such as a "plant three for every one used" policy, to ensure the long-term viability and growth of the garden's biodiversity.

Designing the Data System: A Holistic Approach

An effective herbal garden usage data system requires thoughtful design, integrating various aspects of academic, research, and conservation efforts.

Key Design Elements for the Data System

1

Categorisation of Usage

Define clear categories: teaching (undergraduate/postgraduate practicals), research (dissertations, publications), hospital pharmacy preparation, and community awareness programmes.

2

Digital Dashboard Integration

Develop an interactive dashboard with QR codes for each plant, linking to medicinal information and real-time usage tracking.

3

NAAC & NABH Alignment

Integrate garden utilisation data with accreditation parameters, showcasing academic outcomes, student training, and patient care contributions.

4

GIS & Herbarium Linkage

Digitally map the garden layout and link it with herbarium collections and research databases for authenticity and global visibility.

Reporting: Demonstrating Impact and Accountability

Transparent and structured reporting is crucial for showcasing the value of the herbal garden to stakeholders, ensuring accountability, and securing continued support.

Structured Reporting Framework

1

Annual Usage Summary

Report on the number of plants used for research, teaching sessions conducted, and the extent of replenishment and replantation efforts.

2

Research Output & Innovation

Highlight theses, publications, and innovations directly stemming from herbal garden plant usage, ensuring proper acknowledgements.

3

Conservation Impact

Detail species conserved, rare plants introduced, and the success of sustainable harvesting practices in the garden.

4

SDG 15 Linkage

Explicitly articulate how the garden contributes to biodiversity conservation, sustainable resource use, and environmental stewardship education.

Aligning with SDG 15: Life on Land

By meticulously managing herbal garden usage data, institutions directly contribute to the United Nations Sustainable Development Goal 15, fostering a healthier planet and promoting responsible resource management.

- *Protecting, restoring and promoting sustainable use of terrestrial ecosystems.*
- *Sustainably managing forests, combating desertification, halting and reversing land degradation and halting biodiversity loss.*

Key Takeaways: A Model for Sustainable Education

Sustainable Plant Resource Utilisation

Ensures responsible consumption and replenishment of medicinal plant resources.

Biodiversity Conservation

Actively contributes to preserving plant species, especially rare and endangered ones.

Enhanced Academic & Research Integration

Strengthens the link between traditional medicinal knowledge (Ayurveda) and global ecological goals.

Living Laboratory for Future Generations

Provides an invaluable, practical learning environment for students and researchers.

Next Steps: Empowering Your Herbal Garden

We encourage university administrators, incubation managers, and policy-makers to:

Implement Digital Loggin

Formulate Replantation Policie

Let us transform our herbal gardens into beacons of sustainability, driving innovation and fostering environmental stewardshi p for a better tomorrow.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

14. Unlocking-Potential-Simulation-and-Skill-Labs-for-SDG-9

Unlocking Potential: Simulation & Skill Labs for SDG 9

This presentation outlines a strategic framework for designing, implementing, and reporting on Simulation and Skill Lab usage data to maximise its academic, research, and healthcare training impact, directly contributing to Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure).

The Core Challenge: Quantifying Impact

To truly understand the value of our Simulation and Skill Labs, we need a robust system. This system must move beyond simple usage metrics to capture the nuanced academic, research, and real-world healthcare training impact. It's about transforming raw data into actionable insights that demonstrate our contribution to a skilled healthcare workforce and global sustainable development.

Why Measure?

"What gets measured gets managed." We need to effectively track and report on how our labs foster innovation and infrastructure development.

Beyond Attendance

Measuring usage isn't just about headcounts; it's about competency development, research outputs, and tangible improvements in healthcare training.

Phase 1: Achieving Data Capture - Establishing Protocols

The first step is to establish clear and consistent protocols for the scheduling and utilisation of Simulation and Skill Labs across all student levels and disciplines. This ensures comprehensive data capture from the outset.

01

Standardised Scheduling & Utilisation

Implement clear protocols for undergraduate, postgraduate, nursing, and paramedical students' lab access and session planning.

02

Comprehensive Session Logging

Utilise a digital attendance system to record every session: faculty in charge, number of students, simulation type (mannequin, VR, task trainers), and clinical skills practised (e.g., CPR, resuscitation).

03

Curriculum Integration & Competency Mapping

Ensure all simulation-based sessions are directly mapped to relevant competencies (e.g., NCISM/NCISM-MBBS/paramedical standards) for clear academic alignment.

Phase 1 (Cont.): Enhancing Innovation & Feedback

Beyond core data capture, it's crucial to embed practices that foster innovation and continuous improvement within the Simulation and Skill Lab environment.

Faculty Training Programmes

Regular training for faculty on advanced simulation techniques and best practices, including interdisciplinary simulations (e.g., Ayurveda + modern diagnostics).

Interdisciplinary Simulations

Conduct simulations that integrate diverse medical disciplines, such as Ayurveda practitioners collaborating with modern diagnostic specialists.

Continuous Feedback Mechanisms

Implement structured feedback channels from learners to constantly refine simulation practices and optimise infrastructure utilisation.

Phase 2: Designing the Data - Structured Collection & Analytics

Effective reporting hinges on a well-designed data collection framework. This phase focuses on categorising usage and implementing robust digital management systems.

1

Categorisation of Usage

Define clear categories for lab usage: academic (UG/PG), research, community health, CME/skill workshops, and faculty development.

2

Digital Management System

Develop or acquire software/dashboard to record student participation, frequency of use, modules covered, and assessment scores.

This systematic approach ensures that every aspect of lab engagement is accounted for, providing a holistic view of its operational and educational value.

Phase 2 (Cont.): Designing for Impact - Competency & Infrastructure

To truly demonstrate the impact of our Simulation and Skill Labs, data design must extend to linking skills with learning out comes and tracking infrastructure efficiency.

Competency Mapping

Link each practised skill with specific Course Learning Outcomes (CLOs), aligned with Bloom's Taxonomy and Miller's Pyramid for measurable academic outcomes.

Infrastructure Tracking

Collect data on equipment utilisation (mannequins, task trainers, VR tools) to assess efficiency, inform maintenance schedules, and plan future upgrades.

> *"Data-driven insights empower us to optimise resource allocation and ensure our infrastructure effectively supports advanced learning."*

Phase 2 (Cont.): Designing for Research & Innovation

The design phase culminates in integrating research output tracking, providing a clear measure of innovation within the Simulation and Skill Lab environment.

Research Integration

Document dissertations, pilot studies, and publications directly resulting from simulation-based training.

Showcasing Innovation

Highlight how the labs foster innovation in healthcare pedagogy and contribute to new knowledge.

This focus on research output is key to demonstrating the lab's contribution to the broader academic and medical community.

Phase 3: Reporting - Structured Insights

Reporting should be clear, concise, and structured to highlight key achievements and demonstrate impact. This ensures stakeholders receive actionable and comprehensive information.

Annual Usage Statistics

Report on session numbers, students trained, total simulation-based learning hours, and interdepartmental activities.

Skill Competency Achievements

Quantify competencies achieved through simulation and the percentage of students reaching proficiency levels.

Workshops & Research Outputs

Detail workshops/seminars conducted and all research publications or presentations stemming from lab use.

Phase 3 (Cont.): Reporting - Impact & SDG 9 Linkage

The final aspect of reporting focuses on the broader impact, specifically how the Simulation and Skill Lab contributes to innovation and aligns with Sustainable Development Goal 9.

Infrastructure and Innovation Impact

Showcase new modules (e.g., Ayurveda diagnostics simulations, OSCE/OSPE), innovations in teaching, and improvements in healthcare outcomes driven by lab activities.

SDG 9 Linkage

Clearly articulate how the labs build modern educational infrastructure, promote innovation in teaching, and contribute to a skilled healthcare workforce, directly supporting SDG 9.

SDG 9: Our Contribution to Industry, Innovation, and Infrastructure

The Simulation and Skill Lab is a cornerstone of our commitment to SDG 9. It provides cutting-edge training environments that replicate real-world healthcare scenarios, fostering technological advancement and industry-ready skills. By equipping our students with hands-on expertise, confidence, and competence, we ensure they are ready to innovate and contribute meaningfully to the global healthcare landscape.

INTERNAL QUALITY ASSURANCE CELL,
SHRI DHANWANTRY AYURVEDIC COLLEGE AND HOSPITAL, CHANDIGARH
"ALL 75" TRAINING MODULE

RESEARCH

15. Driving-Innovation-Teaching-Laboratory-Data-for-SDG-9

Driving Innovation: Teaching Laboratory Data for SDG 9

This presentation outlines a structured approach to designing and reporting teaching laboratory usage data, aligning with Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure). We will explore how to capture the impact of lab use on skill-building, innovation, and infrastructure development within higher education.

Agenda

1 Strategic Planning & Framework Design

Defining scope and parameters for effective data collection.

2 Robust Data Collection Mechanisms

Implementing digital tools and comprehensive recording practices.

3 In-depth Data Analysis & Reporting

Translating raw data into meaningful insights and actionable reports.

4 SDG 9 Integration & Continuous Improvement

Demonstrating impact and fostering ongoing enhancement.

1. Strategic Planning & Framework Design

A successful data framework begins with clear planning. Institutions must first define the scope of data collection—whether focusing on undergraduate, postgraduate, PhD, or faculty usage of teaching laboratories.

Key Considerations:

- ***Scope Definition:*** *Which user groups and lab types will be included?*
- ***Parameter Identification:*** *What specific metrics will be tracked?*
- ***SDG 9 Alignment:*** *How will data reflect innovation, skill enhancement, and infrastructure utility?*

2. Robust Data Collection Mechanisms

Digital Access Control

Implement digital entry registers or biometric log-ins for accurate student and faculty attendance records in labs.

Detailed Usage Logging

Record lab usage per subject/module, including date, duration, equipment used, and specific purpose of each session.

Innovation Documentation

Document innovative or interdisciplinary lab practices, such as integrated traditional and modern diagnostic techniques or simulation activities.

Infrastructure Tracking

Maintain comprehensive data on lab infrastructure upgrades, procurement of new equipment, and their usage frequency.

These mechanisms ensure a rich and verifiable dataset for future analysis and reporting.

3. In-depth Data Analysis

Analysis transforms raw data into actionable insights, revealing the true impact of teaching laboratories.

Quantitative Analysis

- *Number of practical sessions per semester.*
- *Average hours spent per student in labs.*
- *Student-to-equipment ratio, indicating access and demand.*
- *Utilization rates of specialized instruments and facilities.*

Qualitative Analysis

- *Assessment of labs in promoting research-oriented learning.*
- *Evaluation of interdisciplinary skill-building opportunities.*
- *Adoption rates of simulation and ICT-based teaching methods.*
- *Comparison of planned versus actual lab usage to identify efficiencies and bottlenecks.*

4. Comprehensive Reporting Framework

Effective reporting synthesizes findings, demonstrating the value and impact of laboratory education.

Visualisation & Regular Reports

Prepare monthly or semester-wise usage reports, incorporating graphs and tables for clear visualisation of trends and statistics.

Skill Development Highlights

Emphasise contributions to practical skill development, such as proficiency in clinical diagnostic tests, experimental pharmacology, or herbal identification techniques.

Academic Outcome Linkage

Connect lab data to improved academic outcomes, including enhanced practical skills, increased innovation in student projects, and better exam performance.

Infrastructure Impact

Document infrastructure improvements, such as newly established labs or upgraded facilities, and their direct correlation with teaching output and research capacity.

5. Integration with SDG 9

Aligning lab usage data with SDG 9 demonstrates a tangible commitment to global development goals.

> "Teaching laboratories are not just spaces for learning; they are incubators of innovation, fostering the next generation of industry leaders and problem-solvers."

Industry & Innovation Readiness: *Report on skill-based certifications, employability outcomes, and start-up incubation support directly emerging from laboratory training, showcasing how students are prepared for the future workforce.*

Sustainable Infrastructure Use: *Demonstrate how laboratory facilities are utilised sustainably and efficiently to maximise educational outcomes, ensuring long-term impact with minimal waste.*

Evidence & Assurance: *Provide concrete evidence through photographs, attendance logs, lab manuals, student reports, and feedback surveys to support accreditation processes and external quality audits, ensuring transparency and accountability.*

6. Continuous Monitoring & Improvement

A dynamic system requires ongoing evaluation and adaptation to remain effective.

Feedback Mechanisms

Implement structured feedback channels for faculty and students to suggest improvements for lab facilities, equipment, and protocols.

Periodic Auditing

Regularly audit laboratory usage data to ensure alignment with evolving curricular, research, and industry needs, maintaining relevance and utility.

Transparency & Accessibility

Ensure transparency by uploading summarised lab usage reports to the institutional website or quality assurance portals, making data accessible to stakeholders.

Key Takeaways

- ***Structured Data Approach:*** *A systematic framework for collecting, analysing, and reporting lab usage data is crucial.*
- ***SDG 9 Alignment:*** *Direct correlation of lab activities to Industry, Innovation, and Infrastructure development enhances global impact.*
- ***Beyond Statistics:*** *Reports should narrate how labs foster innovation and practical learning, particularly within fields like Ayurveda education.*
- ***Continuous Improvement:*** *Regular feedback and audits ensure sustained relevance and efficiency of lab resources.*

Next Steps & Discussion

By adopting this robust system, institutions can effectively demonstrate how their teaching laboratories foster a culture of innovation, skill development, and research, thereby directly contributing to SDG 9.

What are your insights on optimising lab data for policy-making?

> *"The future of education lies in how effectively we can measure and communicate the real-world impact of our practical learning environments."*