

RFD
RESULTS FRAMEWORK DOCUMENT
(2011-12)

For

Punjab State Council for Science & Technology

Department of
Science, Technology, Environment
and Renewable Energy

GOVERNMENT OF PUNJAB

Punjab State Council for Science & Technology
Results Framework Document for PSCST, 2011-12

Section 1
Vision, Mission, Objectives & Functions

Vision :

Science for Sustainable Development

Mission

- To harness the potential of science & technology for sustainable development.
- To ensure that S&T efforts do not remain restricted to scientific laboratories but percolate to the grassroots.

Objectives

1. To provide technical support to the Department of Science, Technology & Environment, Govt. of Punjab.
2. To implement/coordinate State and Central Govt. S&T & Environment Programmes.
3. To identify, demonstrate, replicate and promote technologies relevant to the developmental needs of the State.
4. To popularize science and spread scientific temper & attitude among the general masses & students.
5. To disseminate information on environment and take up capacity building programmes for all sections of the society.
6. To promote applied R&D through universities, R&D institutions and other state, national S&T bodies.
7. To promote innovation and facilitate filing of IPRs.
8. To establish/facilitate infrastructure and institutions/centers for promotion of Science, Technology & Environment.
9. To provide policy inputs to the State Govt. on matters related to Science, Technology & Environment issues.
10. To liaise with international, national and state level S&T bodies.

Functions:

The Punjab State Council for Science & Technology functions under the administrative control of Department of Science, Technology & Environment, Govt. of Punjab. The Council is headed by Chief Minister, Punjab as its Chairman, Minister for Science & Technology as Vice-Chairman and Secretary, Science, Technology & Environment as its Member Secretary. The activities of the Council are guided by an Executive Committee under the chairmanship of Chief Secretary.

The Council is working in the following thrust areas:

1. Popularization of Science.
2. Environment
3. Consultancy to small scale industry for pollution control.
4. Biotechnology.
5. Water Regime Management.
6. Intellectual Property Rights.

The activities of the Council are undertaken to achieve the following:

1. Sustainable Development:

The Council plays an important role in promoting sustainable development in promoting programmes and projects like conservation of natural resources (especially wetlands and biodiversity), rural environment improvement (by promoting technologies for low cost sewerage system and sewage treatment including village ponds, demonstration of RO technology for quality drinking water in south-western Punjab, vermiculture biotechnology for effective management of organic solid waste etc.), promotion of biopesticides (especially neem-based pesticides from native neem plantation), biofertilizers etc. The Council also implements grassroot applications of science & technology for women and rural development and has taken up projects to promote value addition of bio resources (especially amla and lemon grass).

2. Technology Development & Demonstration for Industrial Pollution Control

The Consultancy Cell of the Council is providing technical service by taking up R&D and establishing demonstration units for pollution control in several small scale industrial sectors like brick kilns, cupola furnaces, rice shellers, induction furnaces and rolling mills

(for air pollution control) and electroplating units (for water pollution control). The cost effective technologies developed by the Council have helped to promote energy efficiency and reduce environmental pollution and has benefited around 3000 units in the State. Many of the technologies developed by the Council have been replicated in Haryana, U.P., Bihar, Jharkhand and Jammu & Kashmir. In recognition of its expertise, the Central Pollution Control Board has assigned projects for emission standardization in sectors like induction and arc furnaces and brick kilns. The Council is also collaborating with TERI in UNDP-GEF project on development and promotion of resource efficient bricks. The Council has also been providing technical inputs to the State Govt. for pollution control in Budha Nallah and Holy Bein.

3. Development of S&T Infrastructure

In view of the long felt need for development of infrastructure for S&T, the Council has played a pivotal role in bringing mega projects to Punjab like Pushpa Gujral Science City, National Agri-Food Biotechnology Institute, Bioprocessing Unit and Punjab Biotechnology Incubator. A Biotechnology Park is also being developed for promotion of biotech industry in Punjab. Further, the Council has facilitated setting up of Punjab Biodiversity Board as a statutory body under the Biological Diversity Act, Govt. of India. The Board is presently being serviced by the Council. In addition to the above, school science centers, school science corners and ENVIS Center have also been set up.

In order to facilitate and promote Intellectual Property Rights in the State, a Patent Information Center (to assist academic and R&D bodies) and an Intellectual Property Facilitation Centre (to assist MSMEs) have also been set up. The Center is further establishing Patent Information Cells in various universities of the State and IPR Clubs in technical & vocational institutions.

4. S&T Outreach and Capacity Building

In order to create a scientific temper and to take science to the masses, the Council conducts several programmes like Children Science Congress, celebration of important scientific days, training and capacity building programmes for disaster management,

geoinformatics science communication, model rocketry, nature camps, development and use of low cost teaching aids at state & district level. The Council has also worked as Regional Coordinator for celebration of specific years identified by Govt. of India like, scientific awareness, planet earth, total solar eclipse etc. Several motivational programmes for school students are also conducted.

The Council is also the nodal agency for National Green Corps Programme of Govt. of India under which 5000 Eco Clubs have been established in schools. The clubs are motivated to take up environment based activities. It is also the regional resource agency for National Environment Awareness Campaign taken up with institutions and NGOs in the State. Training programmes on environment, industrial pollution control and ecology issues are also conducted from time to time.

The Council has facilitated biotechnology education through Star Life Science colleges in the State and is regularly conducting Popular Biotechnology Lectures and field based trainings on grassroot applications of biotechnology.

To promote innovation and its protection, the Council regularly conducts workshops, camps and trainings for industry (especially MSMEs) and educational institutions on IPR related issues. Faculty training programmes for technical & vocational institutions are also carried out.

The ENVIS Center of the Council also provides information on status on environment and related issues through a bilingual website (www.envis.nic.in) and through its various projects and programmes. The Center is also coordinating a project on CLOUDSAT education network on NASA.

Other websites developed by the Council for dissemination of information are www.pscst.com and www.understandingplanetearth.in

Publication of resource material is also an important activity to facilitate public outreach. The Council has been regularly bringing out State-of-Environment Reports for Punjab and several books, booklets, pamphlets/postures for communication of science.

An Encyclopedic Dictionary of Biotechnology has also been published in Punjabi. Some of the regular publications of the Council include:

- Nirantar Soach (a monthly Punjabi Science magazine).
- Future Frontiers (a quarterly newsletter)
- ENVIS Newsletter (quarterly).

5. R&D / Survey Projects

The Council has been implementing / facilitating R&D/survey projects with a focus on state needs. Some of the recent projects include mapping of S&T needs and documentation of location specific problems, studies on biodiversity in the Shivaliks, study of neem biodiversity (biochemical and genetic profiling) in Punjab, documentation on traditional agricultural practices, development of comprehensive document for development of emission standards for electric arc and induction furnaces, comprehensive document for development of emission standards for brick kilns, developing efficient rice milling technologies, demonstration and promotion of divided blast cupola, waste minimization and energy efficiency in various industrial sectors, Developing community based approach for prevention & management of Anaemia through nutritional inputs & awareness among young rural women in India etc.

6. Liaison with International, National and State level S&T bodies

The Council is taking up several projects in collaboration with international and national bodies. Some of the important projects include:

UNESCO:

- Multicountry project on integrating environment education in technical & vocational education with Council as nodal agency in India, China, Indonesia, Malaysia and Philippines.
- Project on Greening Science Education involving India, Bangladesh, Sri Lanka, Bhutan and Nepal.
- Educational kit for Capacity building on biodiversity.
- S&T literacy programmes.

NASA: CLOUDSAT Education Network.

UNIDO:

- Cultivation & value cultivation through post harvest processing of bioresources (medicinal, aromatic & horticultural crops) in Shivalik belt.
- Environmentally Sound Management of Biomedical Waste in India (in pipeline).

UNDP-GEF:

- Conservation and Management of Wetlands in Punjab (with Wetland International South Asia)
- Efficiency Improvement in Indian Brick Industry (with TERI)

In addition to the above, the Council is taking up several joint projects with CPCB, State Pollution Control Board, The Energy Research Institute etc. The Council is also working in close liaison with state bodies/institutions like Punjab State Farmers Commission, Punjab Agricultural University, Panjab University, Punjabi University, Guru Nanak Dev University, Irrigation & Power Research Institute etc. and relevant development departments of the State.

7. Policy Inputs:

The Council has been preparing policy drafts or providing policy inputs to the govt. from time to time. It has prepared the S&T Vision document and S&T policy, Environment Policy draft, State Biodiversity Strategy & Action Plan, Water Resource Strategy & Action Plan, State Biotechnology Policy (as part of Knowledge Industry Policy), Punjab Plastic Carry Bags Act, 2005.

Section-2 : Inter se Priorities among Key Objectives, Success Indicators and Targets for PSCST : 2011-12

Colomn-1	Colomn-2	Colomn-3	Colomn-4	Colomn-5		Column-6				
	Weight	Actions	Success Indicator	Unit	Weight	Target / Criteria Value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Objective 1 Implementing State & Central Govt. S&T and Environment Programmes	30	Action 1 Funds received	Funds received for the projects submitted	Amount (Rs. in crore)	7	2.5	2.25	2.00	1.75	1.50
		Action 2 Implementation	As per work plan	%age	8	100%	80%	65%	50%	40%
		Action 3 Disbursal of grants	Timely dispersal	Time period	5	Within 2 months of actual receipt	2.5	3	3.5	4
		Action 4 Physical monitoring	Monitoring by Council or through external experts	%age	7	25%	20%	18	15	10
		Action 5 Report submission	Timely submission	Time period	3	By due date	Delay of 1 m	Delay of 2 m	Delay of 3 m	Delay of 4 m
Objective 2 R&D/Technology demonstration / replication/promotion	25	Action 1 Identification of projects	Identification & prioritization	No.	5	5	4	3	2	1
		Action 2 Formulation of projects	Formulation as per specified format	No.	5	2 formulated & submitted	2 formulated & 1 submitted	1 formulated & 1 submitted	2 Formulated	1 Formulated

		Action 3 Funds received & industries/ organizations involved	Funds received for the projects submitted	Amount (Rs. in lacs)	3	30	25	20	15	10
			Industries/ organizations involved	No.	2	50	45	40	35	30
		Action 4 Implementation of Projects	As per work plan	%age	10	80%	70%	60%	50%	40%
Objective 3 Public outreach	30	Action 1 Organization of Conferences/meetings / seminars / trainings/ Camps/ Workshops	Organization of specified programme	No./Yr.	12	30	25	20	15	10
		Action 2 Programmes with NGOs	Mobilization of NGOs	No.	5	More than 30	30	25	22	20
		Action 3 Resource material development	Development & publication	No.	10	6	5	4	3	2
		Action 4 Websites	Operation of websites	No.	3	3	2	1	-	-
Objective 4 Promotion of Extramural	6	Action 1 No. of Institutions/ Departments approached	Interaction & meetings	No.	2	10	8	6	5	4

Research										
		Action 2 Evaluation & Processing of proposals	Timely processing	Time period	2	Within 4 m of receipt	Within 5m	Within 6m	Within 6.5m	Within less than 6.5m
		Action 3 Funds received	Funds received for the projects submitted	Amount (Rs. In lakhs)	2	30	25	20	15	10
Objective 5 Liaison with S&T bodies and relevant departments	4	Action 1 Technical presentations / S&T inputs as resource persons	Participation as resource persons	No.	2	20	18	16	14	12
		Action 2 Conferences/Trainings attended	No. of Trainings/Conferences	No.	2	30	27	24	21	18
Objective 6 Efficient functioning of the RFD system	5	Action 1 Timely submission of Draft for Approval	On-time submission	No. of months	2	No delay	1	2	3	4
		Action 2 Timely submission of Results	On-time submission	No. of months	2	No delay	1	2	3	4
		Action 3 Finalize a Strategic Plan	Finalize the Strategic Plan for next 5 years	No. of months	1	No delay	1	2	3	4

Section-3 : Trend Values of the Success Indicators

Objective	Action	Success Indicator	Unit	Target / Projected Value	
				Actual Value for 2010 -2011	Projected Value for FY 2011-12
Objective 1	Action 1 Funds received	Funds received for the projects submitted	Amount (Rs. in crore)	2.0 cr.	2.0 cr.
Implementing State & Central Govt. S&T and Environment Programmes	Action 2 Implementation	As per work plan	%age	86%	100%
	Action 3 Disbursal of grants	Timely dispersal	Time period	Within 2 months	Within 2 months
	Action 4 Physical monitoring	Monitoring by Council or through external experts	%age	29%	25%
	Action 5 Report submission	Timely submission	Time period	Delay of 3 months	By due date.
	Objective 2	Action 1 Identification of projects	Identification & prioritization	No.	6
R&D/Technology demonstration / replication/promotion	Action 2 Formulation of projects	Formulation as per specified format	No.	6 formulated & submitted	6
	Action 3 Funds received & industries/ organizations involved	Funds received for the projects submitted	Amount (Rs. In lakhs)	51	30
		Industries/organizations involved	No.	42	50
	Action 4 Implementation of on-going and new projects	As per work plan	%age	85%	80%
Objective 3	Action 1 Conferences/meetings / seminars / trainings/ Camps/ Workshops	Organization of specified programme	No./Yr.	43	40

	Action 2 Programmes with NGOs	Mobilization of NGOs	No.	50	30
	Action 3 Resource material development	Development & publication	No.	7	7
	Action 4 Websites	Operation of websites	No.	2	2
Objective 4	Action 1 No. of Institutions/ Departments approached	Interaction & meetings	No.	20	20
Promotion of Extramural Research	Action 2 Evaluation & Processing of proposals	Timely processing	Time period	Within 4 m of receipt	Within 4 m of receipt
	Action 3 Funds received	Funds received for the projects submitted	Rs. in lacs	50	30
Objective 5	Action 1 Technical presentations / S&T inputs	Participation as resource persons	No.	22	20
Liaison with S&T bodies and relevant departments	Action 2 Conferences/Trainings Attended	Number	No.	27	30
Objective 6	Action 1 Timely submission of Draft for Approval	On-time submission	No. of months	Delay of 1 month	On-time submission
Efficient functioning of the RFD system	Action 2 Timely submission of Results	On-time submission	No. of months	Delay of 1 month	On-time submission
	Action 3 Finalize a Strategic Plan for next 5 years	On-time submission	No. of months	Delay of 1 month	On-time submission

* Covered in Objective, 1, Action 1

**Section 4:
Description and Definition of Success Indicators and Proposed Measurement
Methodology**

A total of 19 success indicators for covering the 6 overall objectives have been selected. These are a blend of one financial target to ensure that adequate proposals are submitted to secure maximum funding under Central/State Govt. sponsored schemes; 3 targets linked to timeline to ensure timely evaluation and processing of proposals, disbursement of grants received from Central/state Govts and submission of reports; 3 linked to the percentage of work completed to ensure implementation and physical monitoring of works as per the work plan and 12 specified and number based targets to ensure that more and more novel projects relevant to developmental needs of the state are generated, public outreach programmes organised, resource material developed to take S&T to the masses and stakeholder base is expanded through involvement of more institutions and NGOs.

**Section 5:
Specific Performance Requirements from other Departments**

Department	Relevant Success Indicator	What do you need?	Why do you need?	How much you need?	What happens if you do not get it?	Remarks
DST - GOP	<p>Percentage of projects sanctioned</p> <p>Timely release of funds</p> <p>Percentage of works completed</p>	Timely processing & submission of project to Planning & Finance, their follow-up and ensuring timely release of funds.	To ensure implementation of the projects as well as their progress as per envisaged work plan.	As per the provisions made under Annual Plan.	<p>State Govt. will loose Central funds as funds against joint schemes will not be received from GOI.</p> <p>- Projects high on state priority will not be implemented.</p> <p>- Long term discontinuation of projects or their erratic execution.</p> <p>- Lack of credibility with stakeholders.</p>	<p>e.g. Joint schemes of. POS like Incentives to young scientists etc.</p> <p>e.g. State Wetlands Programme</p> <p>e.g. State Env. Awareness Education & Training Programme Incentives to young scientists.</p> <p>Student project programmes and Travel Grant especially to teachers & students</p>

Department	Relevant Success Indicator	What do you need?	Why do you need?	How much you need?	What happens if you do not get it?	Remarks
Department of Planning, Punjab	No. of projects sanctioned and their total value.	Greater Outlay for S&T activities. Timely sanction of projects.	To ensure timely processing and implementation of state schemes and joint schemes of Govt. of India.	Greater allocation in State Plan Sanction as per provision in the Annual Plan.	State Govt. will loose Central funds as funds against joint schemes will not be received from GOI. - Projects high on state priority will not be implemented.	
Department of Finance, Punjab	Percentage of funds released against sanction	Assured & timely release of funds under the schemes included in the Annual Plan.	To ensure implementation of projects as well as their progress as per envisaged work plan.	As per the provisions made under Annual Plan.	State Govt. will loose Central funds as funds against joint schemes will not be received from GOI. - Projects high on state priority will not be implemented. - Long term discontinuation of projects or their erratic execution. - Lack of credibility with stakeholders.	e.g. Joint schemes of. POS like Incentives to young scientists etc. State Wetlands Programme State Env. Awareness Education & Training Programme Incentives to young scientists. Student project programmes and Travel Grant especially to teachers & students.

Department	Relevant Success Indicator	What do you need?	Why do you need?	How much you need?	What happens if you do not get it?	Remarks
Govt. of India DST, MoEF, DBT & other Ministries/ Departments	No. of schemes in operation.	Timely release of funds.	To ensure implementation of on-going projects. To bring new schemes/ funds to the State. To bring new S&T infrastructure and to sustain the existing one.	As per the budget mutually decided between GOP & GOI OR As per the proposed Plan Allocation.	Loss of momentum for state specific R&D and other S&T activities. Under utilization of trained staff and their demotivation.	-
State Line Departments especially Department of Education	Number of Programmes.	Partnership in implementation of various programmes. Timely utilization of funds and submission of UCs & progress reports to ensure that next year fund release is not affected.	For better outreach and better management of field level works.	Depending upon the requirement of the programme.	Non- implementation of schemes in the field. The benefits of S&T do not reach out to the masses.	-
Universities & R&D institutions.	No. of R&D projects supported including joint	Partnership in implementation of various projects/ programmes.	Strong infrastructure and planned management	Their participation would increase the number &	State R&D will lag behind. Implementation of outreach	-

	<p>projects.</p> <p>No. of interactions, meetings & organization of specific programmes.</p>	<p>Timely submission of PPRs and UCs.</p>	<p>for implementation of R&D projects & other specific programmes including outreach programmes.</p>	<p>effectiveness of the programmes.</p>	<p>programmes will suffer.</p>	
<p>Industry/ Industrial Associations/ Deptt. Of Industries & other regulatory agencies</p>	<p>No. of projects for industries approaching the Council for consultancy & IPR services.</p>	<p>Partnership and patronage as well as private funding for technology development.</p>	<p>To give S&T impetus to the industrial activity in the State.</p>	<p>Infrastructure needs to be built up in the State for technology assessment, accreditation, development/ demonstration & transfer in proportion to the demand of industry</p>	<p>R&D in industry will continue to lag behind.</p>	<p>The industry needs to be equipped for protection of their innovations & other IPRs in view of new laws related to WTO and TRIPS.</p>
<p>NGOs</p>	<p>No. of projects implemented through NGOs and their total value.</p>	<p>Partnership in implementation</p>	<p>Better Outreach as far as common man is concerned.</p>	<p>-</p>	<p>Outreach will be restricted.</p>	<p>Programmes related to Environment Awareness, Popularization of Science and Biotechnology Awareness</p>