

Evaluation Grid (Draft)

As of 25 Jan. 2012

1. Achievement		Necessary Information and Data	Results
Main	Questions Sub-questions		
Inputs	<p>Have inputs from the Japanese side been implemented as planned?</p> <ul style="list-style-type: none"> • Japanese Experts • C/P training in Japan • Provision of equipment • Operational costs for the Project 	<p>Actual Inputs in comparison with the planned ones in R/D</p> <ul style="list-style-type: none"> • Japanese Experts • C/P training in Japan • Provision of equipment • Operational costs for the Project 	<p>Japanese Experts: A total of 9 experts have been fielded for 5 positions. 1) Team Leader, 2) Science Education [Physics and Chemistry] (2 persons; Physics expert was also responsible for earth science for the first and the second year, from the third year only responsible for physics. Chemistry expert was also responsible for Biology for the first and second year, from the third year was responsible for Chemistry only. Chemistry expert was working as deputy team leader as well for whole the project period.) 3) Science Expert [Biology and Earth Science] (3 persons; for the first year 2 experts specialized physics and chemistry respectively were responsible for biology and earth science as well. For third year one expert specialized for both biology and earth science was allocated.) 4) Educational Evaluation Expert (2 persons; one for first year, one for third year), 5) Master trainer training and teacher trainer training expert (2 persons; one for first year and another for second and third year.) In addition to the 5 positions, one science education expert was assigned for the overall quality improvement. Total 4 science experts worked for the Project against 2 positions. In addition to the original allocation plan of experts, 1 more M/M expert assignment was provided to cope with the required technical support for G8 lesson plan development. For details, please see Annex 3-2.</p> <p><u>C/P training in Japan:</u> A total of 20 C/Ps participated in the Counterpart Training in Japan. 4 from NISTE, 5 from FDE, 1 from Punjab, 4 from Sindh, 2 from KPK, 2 from Balochistan (2 persons participated twice). For the 1st year, 2 persons from NISTE and 1 person from Punjab could not join the training though they were nominated. As for the 2nd year, one from Punjab and one from Sindh could not join the program. In total, 5 seats were not utilized for the Project. For details, please see Annex 3-3.</p> <p><u>Equipment:</u> A total of 1,076,650 PKR, 7,940 US\$ and 217,176 JPY worth equipment was procured for the smooth operation of the Project including personal computers, cameras, multimedia and so on. The equipment was fully utilized for the development of teaching plans.</p> <p><u>Operational Costs:</u> A total of 50,305,000 PKR has been spent for Operational Cost till Dec. 2011. Operational costs include expenses for teaching plan development (TPD) grade 4-7, expenses for master trainer training, expenses for provincial</p>

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	<p>Have inputs from the Pakistan Side been implemented as planned?</p>	<p>Actual Inputs in comparison with the planned ones of R/D</p> <ul style="list-style-type: none"> • Assignment of counterpart personnel • Office and facilities provided for the Project • Operational costs for the project 	<p>members to work in Islamabad, expenses for NISTE personnel to work in provinces, expenses for teacher trainings in pilot areas, expenses for printing and distribution of materials with training delivery for master trainers and teachers, other project activities such as impact analysis, monitoring, holding forum etc. Initially the costs for the master trainers training (MMT) were to be borne by Pakistan side. Due to budgetary constraints of the Pakistan side, it was not materialized. Subsequently, it was borne by Japanese side but the both sides agreed to leave TPD grade 8 to Pakistan side only, as MMT grade 8, which was planned after the project period' seemed not to be uncertain for the moment. After the devolution of MOE, CA&DD expressed their strong will to keep TPD grade 8 within the project scope and decided to proceed with it by their expense. The expenses for the NISTE personnel to work in provinces, which was originally the responsibility of the Pakistan side was also borne by the Japanese side.</p> <p><u>C/P:</u> There were frequent changes in the position of Project Manager, i.e. Director General of NISTE. In total 8 persons were posted as Director General up to date. Except the first and the second DG, all others were either holding the position as additional charges or acting charge. There has not been full time DG in NISTE for almost all of the project period. Additional charges of DG sometimes caused inconformity with hierarchy between Project Director and Project Manager. A total of 25 NISTE technical officers were involved in the Project. Of which 18 were engaged with the project from the beginning and 12 of them were continuously working throughout the project period. Approximately 8 persons were engaged with teaching plan development, 8 persons for training program, and 5-8 persons were worked for monitoring activities. For the video production, 3 persons from video production unit from Technical wing supported the Project activities, which were not initially planned and additional inputs from Pakistan side. FDE's personnel have changed time to time. Training wing and AEOs were involved in the project. Provincial stakeholders were expected to nominate the focal persons from textbook board, bureau of curriculum and training institutions. There has been continuous participation in the PIMC meetings from the provinces, however, there was frequent change of the representatives in the beginning, which gradually improved for the passage of the time. Transfer of the designated focal persons sometimes created communication gaps between the Project and provinces. Sufficient number of teaching plan writers was assigned from the provinces.</p> <p><u>O:</u> Office and facilities provided for the Project. Sufficient office space was provided to the Project. The project was provided additional room for the smooth operation of the project in third year. For the details, please see Annex 3-4.</p>
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Outputs	Achievement of Outputs	Indicator	Necessary Information/Data	Results
	Has Output 1 been produced as planned? 1. SCIB teaching plans for class 4-8 science are developed.	1. The developed SCIB teaching plans receives endorsement from provincial education departments.	<ul style="list-style-type: none"> Endorsement letter from MOE Evidence of the name of education dept. printed on the teaching plan. 	Grade 4 teaching plans were completed and endorsed as per the attached Appendix-3 of Annual Report II on 14 Feb. 2011 by Curriculum Wing of Ministry of Education. Grade 4 teaching plans were distributed to the concerned stakeholders in July 2011. Grade 5 teaching plans were completed, printed and distributed in Jan. 2012. Grade 6 and 7 teaching plans are expected to be printed and distributed by the end of Feb. 2012 and by the end of Feb. 2012, respectively. Grade 8 will be finalized in Jan. 2012 and printed by Feb. 2012. In the Grade 5-7, name of related educational departments of the provinces are and will be printed as an evidence of the ownership of the teaching plans. Same will be expected for the Grade 8 teaching plans. Each teaching plan was developed by the writers all over the country as shown in Annex 3-1 list of TPD members.
	Has Output 2 been produced as planned? 2. Master trainers are equipped with skills and knowledge to deliver SCIB science lessons.	2-1. 70% of the MTT participants succeeded in making the practical materials. (skills) 2-2. 70% of the MTT participants improved lesson plans through the group work. (skills)	<ul style="list-style-type: none"> 2-1. Assessment record of the master trainers by facilitator 2-2. Assessment record of the group assessment of lesson plan improvement 	As for master trainer trainings of Grade 4 & 5, on average 77% of the participants in batch 1 and 89% in batch 2 made materials in accordance with the instructions, however, hardly elaborated them. (Ref: Annual Report II). As for master trainer trainings of Grade 6 & 7, more than 85% of participants succeeded in making materials in all the sessions. (Ref: Progress Report III). Remarkably 100% of participants succeeded in making materials in ICT. All the lesson plans were improved in the master trainer training for Grade 4 & 5 as shown in Appendix 6 of Annual report II, which could be said that participants gained the skills in improving lesson plans. All the groups of the master trainers participated in the master trainer training for Grade 6 & 7 improved their lesson plans through sessions on lesson plans and lesson study. Examples of the improvement in lesson plans are such as 1) modifying activities to achieve objective of lesson more effectively, 2) modifying objective to reflect Students Learning Outcomes (SLOs) in new curriculum more properly, 3) Adding questions that promote students to inquire more and so on as described in Progress report III. Although there was room for improvement in master trainers' skills in developing and improving lesson plans.

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		<p>2-3. 70% of the MTT participants improved their knowledge on science at the Post training survey. (knowledge)</p>	<p>2-3 Assessment record of master trainers</p>	<p>master trainers were motivated to promote the use of lesson plans. For Grade 4 and 5, 72 % were very much motivated and 27% were motivated to some extent. It was same for the Grade 6 & 7, more than 90% were responded that they were very much or to some extent motivated to promote the use of lesson plans. As for the Grade 4 and 5 master trainers, 63% of the participants in batch 1 improved knowledge of science subject whereas 70% of them in batch 2 improved knowledge of science subject. As for the Grade 6 and 7 master trainers, 64 % of Punjab course, 69% of main course, 86% of ICT course participants improved knowledge of science subject. Overall average is 70%. 70% of them were increased their score of science subject of pre- and post- test and improved their knowledge on science subject.</p>																																								
<p>Has Output 3 been produced as planned? 3. Necessary interventions for effective teacher training are identified through pilot activities in Islamabad Capital Territory (ICT).</p>	<p>3-1. Documented pilot teacher training model are developed by the end of 2011.</p>	<p>3-1 Documented Training Model</p>	<p>3-1 Documented Training Model</p>	<p>"Guidelines for Student-centered and Inquiry-based (SCIB) Science Education Teacher Training Program" were developed in collaboration with FDE, NISTE and JICA expert team. The guidelines were endorsed in the PIMC meeting held on 20 January 2012. During the lesson study workshop for Grade 4 and 5, utilization of teaching plan was assessed and found that 63 % of them utilize lesson plans at least once a week or more, 29% utilized once a month. (Ref. Progress Report III). As for Grad 6 and 7, assessment during lesson study workshop found that 43% of teachers utilize lesson plans at least once a week or more, 45% utilize at least once a month. End line survey result found that 88% of trained teachers of Grade 4 and 5 in pilot schools do use lesson plan, while 89% of trained teachers of Grade 6 and 7 in pilot schools do use lesson plans.</p>																																								
<p>Has Output 4 been proposed as planned? 4. The experience of model SCIB teacher training is shared among other educational stakeholders and their interest in SCIB is increased.</p>	<p>4-1. NISTE organized forums/events on science education at least twice.</p>	<p>4-1 Number of forums/events organized, number of participants, feedback from participants</p>	<p>4-1 Number of forums/events organized, number of participants, feedback from participants</p>	<p>In total 3 National/Provincial forums were organize till date.</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Type of Forum</th> <th>Place</th> <th>No. of Participants</th> </tr> </thead> <tbody> <tr> <td>29 Nov. 2010</td> <td>National Forum</td> <td>Islamabad</td> <td>90</td> </tr> <tr> <td>3 Dec 2010</td> <td>Provincial Forum</td> <td>Lahore, Punjab</td> <td>63</td> </tr> <tr> <td>17 Nov. 2011</td> <td>Provincial Forum</td> <td>Hyderabad, Sindh</td> <td>50</td> </tr> </tbody> </table> <p>In total 7 Awareness raising meetings were organized till date.</p> <table border="1"> <thead> <tr> <th>Date</th> <th>Place</th> <th>Organizer</th> <th>No. of Participants</th> </tr> </thead> <tbody> <tr> <td>29 Nov. 2010</td> <td>Islamabad</td> <td>NISTE and FDE</td> <td>95</td> </tr> <tr> <td>3 Dec. 2010</td> <td>Lahore, Punjab</td> <td>DSD, Punjab</td> <td>80</td> </tr> <tr> <td>19 Oct. 2011</td> <td>Hyderabad, Sindh</td> <td>EDO office</td> <td>125</td> </tr> <tr> <td>27 Oct. 2011</td> <td>Islamabad</td> <td>FDE</td> <td>76</td> </tr> <tr> <td>17 Nov. 2011</td> <td>Faisalabad, Punjab</td> <td>EDO office</td> <td>107</td> </tr> </tbody> </table>	Date	Type of Forum	Place	No. of Participants	29 Nov. 2010	National Forum	Islamabad	90	3 Dec 2010	Provincial Forum	Lahore, Punjab	63	17 Nov. 2011	Provincial Forum	Hyderabad, Sindh	50	Date	Place	Organizer	No. of Participants	29 Nov. 2010	Islamabad	NISTE and FDE	95	3 Dec. 2010	Lahore, Punjab	DSD, Punjab	80	19 Oct. 2011	Hyderabad, Sindh	EDO office	125	27 Oct. 2011	Islamabad	FDE	76	17 Nov. 2011	Faisalabad, Punjab	EDO office	107
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<p>20 Dec. 2011 Karachi, Sindh EDO office 96 5 Jan. 2012 Islamabad FDE 79</p>	<p>The theme of the forums in 2010 was "Is SCIB Science Education workable in Pakistan?" The participants agreed with the importance of SCIB concept while they showed concern on actual implementation. Over-crowded class and absence of the awareness of SCIB can be hindering factors for promoting SCIB. The theme of the forum in 2011 was "How can we promote SCIB science in Sindh?". The lack of resources in including teachers and science kit was the challenges as well as proper support from the management and administration was identified as one of the hurdles to promote SCIB training in schools. The theme of awareness raising meeting was "What is SCIB?" As found in the questionnaire, majority of the participants understood the SCIB education.</p> <p>6 out of 10 events effect was evaluated with the questionnaire. <Forum> *Understanding the necessity of SCIB @ Sindh Forum</p> <table border="1" data-bbox="710 235 774 1019"> <tr> <td>Very much</td> <td>Much</td> <td>A little</td> <td>Not at all</td> </tr> <tr> <td>74%</td> <td>23%</td> <td>3%</td> <td>0%</td> </tr> </table> <p><Awareness raising meetings> *Understanding the SCIB education</p> <table border="1" data-bbox="853 347 1029 1019"> <thead> <tr> <th></th> <th>Hyderabad</th> <th>ICT 1</th> <th>Faisalabad</th> <th>Karachi</th> <th>ICT 2</th> </tr> </thead> <tbody> <tr> <td>Very</td> <td>40%</td> <td>41%</td> <td>31%</td> <td>56%</td> <td>31%</td> </tr> <tr> <td>Much</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Much</td> <td>44%</td> <td>49%</td> <td>51%</td> <td>37%</td> <td>56%</td> </tr> <tr> <td>A little</td> <td>14%</td> <td>10%</td> <td>17%</td> <td>6%</td> <td>13%</td> </tr> <tr> <td>Not at all</td> <td>0%</td> <td>0%</td> <td>1%</td> <td>0%</td> <td>0%</td> </tr> </tbody> </table> <p>*Usefulness of Lesson Study</p> <table border="1" data-bbox="1077 324 1236 1019"> <thead> <tr> <th></th> <th>Hyderabad</th> <th>ICT 1</th> <th>Faisalabad</th> <th>Karachi</th> <th>ICT 2</th> </tr> </thead> <tbody> <tr> <td>Very Much</td> <td>68%</td> <td>64%</td> <td>75%</td> <td>60%</td> <td>57%</td> </tr> <tr> <td>Much</td> <td>26%</td> <td>33%</td> <td>19%</td> <td>34%</td> <td>40%</td> </tr> <tr> <td>A little</td> <td>6%</td> <td>3%</td> <td>5%</td> <td>5%</td> <td>3%</td> </tr> <tr> <td>Not at all</td> <td>0%</td> <td>0%</td> <td>0%</td> <td>2%</td> <td>0%</td> </tr> </tbody> </table> <p>*Usefulness of Lesson Plan Making</p> <table border="1" data-bbox="1284 324 1313 1019"> <thead> <tr> <th></th> <th>Hyderabad</th> <th>ICT 1</th> <th>Faisalabad</th> <th>Karachi</th> <th>ICT 2</th> </tr> </thead> <tbody> <tr> <td>Very Much</td> <td>68%</td> <td>64%</td> <td>75%</td> <td>60%</td> <td>57%</td> </tr> <tr> <td>Much</td> <td>26%</td> <td>33%</td> <td>19%</td> <td>34%</td> <td>40%</td> </tr> <tr> <td>A little</td> <td>6%</td> <td>3%</td> <td>5%</td> <td>5%</td> <td>3%</td> </tr> <tr> <td>Not at all</td> <td>0%</td> <td>0%</td> <td>0%</td> <td>2%</td> <td>0%</td> </tr> </tbody> </table>	Very much	Much	A little	Not at all	74%	23%	3%	0%		Hyderabad	ICT 1	Faisalabad	Karachi	ICT 2	Very	40%	41%	31%	56%	31%	Much						Much	44%	49%	51%	37%	56%	A little	14%	10%	17%	6%	13%	Not at all	0%	0%	1%	0%	0%		Hyderabad	ICT 1	Faisalabad	Karachi	ICT 2	Very Much	68%	64%	75%	60%	57%	Much	26%	33%	19%	34%	40%	A little	6%	3%	5%	5%	3%	Not at all	0%	0%	0%	2%	0%		Hyderabad	ICT 1	Faisalabad	Karachi	ICT 2	Very Much	68%	64%	75%	60%	57%	Much	26%	33%	19%	34%	40%	A little	6%	3%	5%	5%	3%	Not at all	0%	0%	0%	2%	0%
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<p>4-2. Lessons learned through pilot activities are shared in forums/events, and the importance is understood by provinces.</p>	<p>4-2. Number of forums/events organized, number of participants, participants background, feedback from participants, action to be taken by the provinces</p>																																																																																																								

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4-3. Promotion materials are developed.	4-3 Process of development of promotion materials, Content of promotion materials, utilization of promotion materials	Through the participation of the forum and awareness meetings, more than 87 of participants understand SCIB science education, felt usefulness of lesson study and usefulness of lesson plan making.																				
		4 kinds of promotion video were developed in collaboration with NISTE, FDE and JICA expert team. NISTE Technical wing also supported the video making.																				
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		(Progress Report II)																				
		Promotion videos were utilized in the forum and awareness raising meetings organized in 2011 onwards. One copy of DVD was distributed to the provincial stakeholders in Jan. 2012.																				
		NISTE is of the view that there is a room for quality improvement in the promotion video. 3 aspects of SCIB concepts, i. e. "Inquiry", "Discovery" and "Questioning" were explained by words in the promotion video, however, it is better to demonstrate in the video for clear understanding of the SCIB concept. The promotion video of																				

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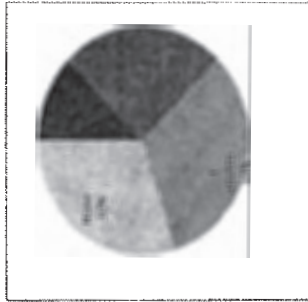
Prospect of Achievement (Project Purpose)	Project Purpose	Indicator	Necessary Information/Data	Results																															
	<p>Prospects of achieving Project Purpose</p> <p>Project Purpose: Effective SCIB training model that ensures teachers to deliver SCIB science lessons is established.</p>	<p>1. Well planned and implemented SCIB teacher training model including 1) preparation, 2) training delivery method, 3) training contents, 4) monitoring and evaluation is compiled, documented and endorsed.</p> <p>2. 70% of teachers in ICT pilot areas who received training are acquired and practices at least one criteria of SCIB science lessons concept.</p>	<p>1. Contents of the training model, process of the development of the model, response from the stakeholders, utilization of the guideline.</p> <p>2. % of teachers who practices SCIB component</p>	<p>Urdu version is also better to be developed.</p> <p>See output 3-1.</p> <p>Training guideline was prepared based on the training plan of Grade 6 & 7 teachers in ICT. The training plan of G6 & 7 was developed based on the training plan of Grade 4 & 5 which took place in previous year. The draft documents were discussed among NISTE, FDE and Expert team for 4-5 times since Oct. 2011 and compiled and endorsed in the PIMC meeting held on 20 Jan. 2012. The guideline will be distributed to the stakeholders in Mar. 2012.</p> <p>In the end line survey, 67% of trained teachers of Grade 4 and 5 practice at least 1 criteria of SCIB concept while only 40 % of trained teacher of Grade 6 and 7 practice at least 1 criteria of SCIB concept.</p> <table border="1" data-bbox="821 1344 965 1590"> <thead> <tr> <th></th> <th>Grade 4 & 5</th> <th>Grade 6 & 7</th> </tr> </thead> <tbody> <tr> <td>3 aspects</td> <td>7%</td> <td>0%</td> </tr> <tr> <td>2 aspects</td> <td>20%</td> <td>0%</td> </tr> <tr> <td>1 aspect</td> <td>40%</td> <td>40%</td> </tr> <tr> <td>None</td> <td>33%</td> <td>60%</td> </tr> </tbody> </table> <div style="display: flex; justify-content: space-around;"> <div data-bbox="1013 660 1260 996"> <p>Grade 4 & 5</p> <table border="1"> <tr><td>1 aspect</td><td>40%</td></tr> <tr><td>2 aspects</td><td>20%</td></tr> <tr><td>3 aspects</td><td>7%</td></tr> <tr><td>None</td><td>33%</td></tr> </table> </div> <div data-bbox="1013 268 1260 593"> <p>Grade 6 & 7</p> <table border="1"> <tr><td>1 aspect</td><td>40%</td></tr> <tr><td>2 aspects</td><td>0%</td></tr> <tr><td>3 aspects</td><td>0%</td></tr> <tr><td>None</td><td>60%</td></tr> </table> </div> </div>		Grade 4 & 5	Grade 6 & 7	3 aspects	7%	0%	2 aspects	20%	0%	1 aspect	40%	40%	None	33%	60%	1 aspect	40%	2 aspects	20%	3 aspects	7%	None	33%	1 aspect	40%	2 aspects	0%	3 aspects	0%	None	60%
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From the monitoring of teachers trained in ICT, 72% of Grade 4&5 teachers practiced at least 1 aspect of SCIB while 60% of Grade 6&7 teachers practiced at least 1 aspect of SCIB concept.

	Grade 4 & 5	Grade 6 & 7
3 aspects	16%	13%
2 aspects	28%	13%
1 aspect	28%	33%
None	28%	40%



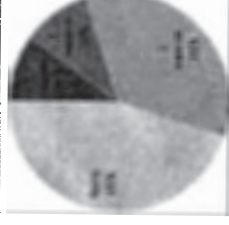

Overall results of the SCIB aspects were as follows;

	Grade 4 & 5	Grade 6 & 7
3 aspects	12%	10%
2 aspects	25%	10%
1 aspect	33%	35%
None	30%	45%

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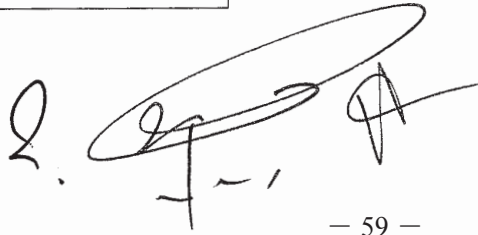
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Prospects of Achieving Overall Goal	Overall Goal	Indicator	Necessary Information/Data	Results
	<p>Prospects of achieving Overall Goal</p> <p>Overall Goal: Effective teacher training model that ensures teachers to deliver student-centered and inquiry-based (SCIB) science lessons is utilized by other provinces and areas other than 5 pilot clusters in ICT according to their setup.</p>	<p>1. SCIB teacher training model utilized in ICT other than 5 pilot clusters.</p> <p>2. SCIB teacher training model is introduced to provinces with adoption. / adaptation.</p>	<p>1. Future plan of training program of FDE</p> <p>1. Any component included in training program in provinces.</p>	<div style="display: flex; justify-content: space-around;">   </div> <p>70% of teachers for G4&5 are practicing at least 1 aspect of SCIB concept, while 55% of teacher for G6&7 are practicing at least 1 aspect of SCIB.</p> <p>For the teachers of G4&5 has achieved the target while G6&7 are not.</p> <p>FDE tries to continue SCIB training program with their annual training budget. They requested the annual budget for the training which includes SCIB training. CADD has vision to further pilot the SCIB training and disseminate it for 100% schools in ICT.</p> <p>NISTE is already in the process of preparing for the next year's budget which include Grade 8 master trainers training for ICT and provinces as well as other master trainers for G4 to 7. Awareness raising program also has included in the budget plan.</p> <p>[Punjab]</p> <ul style="list-style-type: none"> -Teacher's Guide – Lesson Plans' developed by DSD; DSD developed this guide in 2011. There are two points influenced by the SCIB teaching plans. 1) Concept which try to achieve the objectives of the class within the limited timeframe. 2) Concept which try to organize class based on the teacher's query. However, expected students' responses are not included and concept of how to create interactive student centered class were not found in the teacher's guide. - Pre-service Teacher training conducted by DSD; DSD introduced the lesson study training method in one of their training program for pre-service training. NISTE resource person visited and assisted the program.

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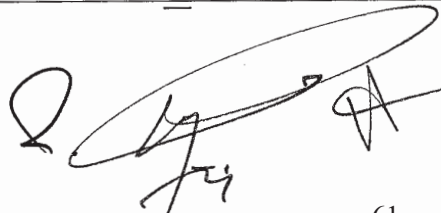
				<p>[Sindh] -In-service Teacher training conducted by master trainers at District Hyderabad; District Hyderabad organized 13 day training of SCIB in Jul. 2011. 18 master trainers from District Hyderabad were trained by SCIB project. With the support of District Officer Education, Hyderabad, 23 teachers were trained on SCIB.</p> <p>[KPK] - Teaching Plan Development (TPD) Team members and master trainers of SCIB project became resource person for the training of master trainers for General science G4 & 6 organized by DCTE (Directorate of Curriculum and Teacher Education) .</p> <p>[Balochistan] -9 master trainers trained 35 more master trainers in the same manner of training.</p>
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2. IMPLEMENTATION PROCESS			Results
Main-question	Question items	Necessary Information/Data	
Progress of Activities	Sub-question • Have project activities been carried out as planned? • If not, what are such activities and why? • What are the contributing/hampering factors?	• PO • Accomplishment of Activities • Contributing/hampering factors and how to cope with them	Though all the planned activities can be completed at the end of the project, the project had to cope with the hindering factors for smooth operation of the project. One of the hindering factors was frequent changes of administration of NISTE, which cause difficulties and hurdles for getting the things done in immediate manner. The existing set up, however, managed to pass through those difficulties. The uneven capacity of the TPD members hampered the scheduled teaching plan development. The project team allocated additional consultants and organized the additional workshop for Grade7 teaching plan development to maintain the quality of the teaching plan. The Urdu translation work was more time consuming than expected.
Appropriateness of Technical Transfer	• Are methods of technical transfer appropriate? • Any problems of the methods of technical transfer? If any, what? • Has the technical expertise been transferred to C/Ps, and what is the status of the progress?	• Method, Contents, Levels, Adjustments of technical transfer • Progress of Technical Transfer	Technical skills of master trainer training were transferred to C/P, though there might be room for further improvement. NISTE technical team went through the one complete cycle of project activities and confident enough to carry out the same activities after the project period. On the other hand, skills of training management were not properly transferred to FDE due to the change of administrative personnel of FDE. Project team tried to introduce simple, feasible and effective technical skills to C/Ps so that C/P could gain enough confidence through the project activities such as teaching plan development and master trainer training. This strategy was well worked and NISTE now felt confident and appreciate the training program is simple and feasible one.
Project Management	• How is the monitoring mechanism? • Have monitoring exercises been done properly?	• Monitoring Mechanism (who, how, what frequency including feedback system) • Actual Performance of Monitoring	Regular weekly meeting between NISTE, project team and JICA Pakistan office worked well as a monitoring mechanism. PIMC was less effective in the beginning because the representative from the provinces was changed every time, which made the meeting less productive. The representative, however, gradually fixed with the passage of time and PIMC became the effective monitoring mechanism. While JCC was not as effective as it should be since proper participation of decision makers was not found. PDM was well utilized for monitoring of the project and as a tool for explaining the project activities to the provincial members. Provincial members felt the monitoring of the master trainers in the provinces were difficult to take care from the Islamabad and not so effectively monitored due to the distance from the capital.
Decision Making Processes	• Has decision making mechanism functioned smoothly?	• Decision making process (eg. Modification of plans, staff/budget allocation etc.)	Decision making mostly made in a proper manner through discussions and meetings including PIMC and JCC. However, due to the absence of full-time DG of NISTE, the project team went through the delay of decision making from Pakistan side, such as deployment of full time C/P, preparation for budget of master trainer training, nomination of C/P training participants and nomination of full-time DG himself.

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	<p>Information on problems of decision making</p> <ul style="list-style-type: none"> Methods of communication (e.g. Meetings etc.) and frequencies Problems in communication 	<p>The communication between JICA Pakistan office and project team as well as NISTE was satisfactory done through regular weekly meetings and other meetings. Communication between project team and JICA headquarters were less frequent than those with Pakistan office but maintained through occasional report to headquarters when team members were in Japan.</p>
<p>Communication among Stakeholders</p>	<ul style="list-style-type: none"> Has a good communication been maintained between Project personnel and JICA (Country Office, HQs)? Has the project maintained a necessary communication with major, relevant donors? 	<p>Project team maintained communication with relevant donors including USAID, DfID, GIZ and CIDA to avoid the overlapping of the project activities and to explore the possibility of the collaboration. Though the project tried to avoid the overlapping of timing of the trailing, it was not succeeded due to various reasons. The collaboration with other donors, such as DfID and GIZ was not materialized though the project had several meetings.</p>
	<ul style="list-style-type: none"> Methods of communication (e.g. Meetings etc.) and frequencies Problems in communication 	<p>In the beginning of the project, leveling of the understanding about the way of working of both sides (NISTE and project team) was required. Gradually the understanding was leveled and communication became smooth. Frequent changes of the administration of NISTE and FDE make the project team as well as NISTE spend more and extra time on keeping liaison with them. They had to brief and explain the project activities to the newly appointed administration several times. In the 3rd year, many activities with FDE were scheduled. The change of administration of FDE was affected the smooth operation in the beginning of the 3rd year. Communication between the project team and provincial stakeholders were maintained properly through PIMC meetings and awareness meeting organized in the provinces. The communication with some provinces including KPK and Balochistan was somehow limited since the project team could not visit the site due to security concern.</p>
<p>Ownership</p>	<ul style="list-style-type: none"> Degree of understanding project by C/Ps 	<p>NISTE's understanding of the project gradually become high. In the beginning they were somehow passive towards the project activities, but now they are confident in what they learned throughout the project period. On the other hand, FDE's understanding of the project was high in the beginning. The change of the officers affected the understanding of the project, for which NISTE helped them to understand the project. Transfer of the provincial focal person in Balochistan and Punjab hampered the continuous communication with them. The level of understanding of the project sometimes decreased due to the change of concerned persons and was not consistent over the project period. Overall level of understanding of SCIB concept of the provincial members was less than that</p>




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				<p>of ICT since they do not have opportunity of the training at schools like ICT. The project tried to organize the visit of provincial member to the training site, which could not be materialized due to various reasons.</p>
Allocation of C/Ps	<ul style="list-style-type: none"> Have C/Ps been assigned appropriately? 	<ul style="list-style-type: none"> Statue of allocation of C/Ps (numbers, posts/responsibilities, timing of assignment) 	<p>After the retirement of 4 technical staff of science background, no replacement was done at NISTE. The project team and NISTE had to assign the tasks to the technical staff of mathematics background and Science Laboratory Assistants. The capacity of the TPD members from the province varied from person to person.</p>	
Participation in Project activities	<ul style="list-style-type: none"> Have C/Ps performed their expected responsibilities? How has been the level of participation by C/Ps in the Project activities? 	<ul style="list-style-type: none"> Degree of performing responsibilities Degree of participation of C/Ps (e.g. frequencies and participating members of meetings, events, activities, contents of discussions, etc.) 	<p>MOE: The level of participation was satisfactory, however, during the devolution phase of the ministry it become inactive. CADD: The level of participation was quite high. The project was taken in charge by CADD immediately after the establishment of the division. CADD also took charge of Grade8 teaching plan development and showed strong leadership. FDE: The level of participation was satisfactory. The project team spent time for coordination during the transition period of the concerned officers. Master Trainers: The level of participation varies in provinces and person to person. Some master trainer showed very high level of participation.. In particular, the master trainers of ICT showed very high level of participation. They participated in the awareness raising meeting as a resource person and organized the training at schools by themselves after the training by the Project. Those who cannot find opportunity to conduct training may have limited chance of active participation in the project. Head teachers in ICT: The level of participation was satisfactory. They were cooperative with training programs. Teachers of the pilot schools: The level of participation was quite high. Even though there was no provision of the TA/DA, most of teachers participated in the training program (lesson study workshops).</p>	
Budget	<ul style="list-style-type: none"> Have the local costs been met by Pakistan side appropriately? 	<ul style="list-style-type: none"> Amount and share of the budget expenditures (actual) 	<p>Master trainer training was originally planned to borne by Pakistani side. NISTE's annual PC1 for the training program was not approved during the project period due to various reasons. JICA had to bear the cost for master trainer training. On the other hand, new administration decided to bear the Grade 8 teaching plan development cost, which showed the level of commitment to the project from Pakistani side.</p>	

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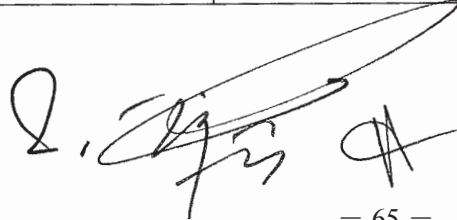
3. Five Evaluation Criteria			
Criteria	Evaluation items		Results
	Major	Sub	
(1) Relevance	Necessity	Is the Project in line with the needs of target region and society?	<p>The project is in line with the needs of the country, which contribute the promotion of the General Science curricula of 2006. This needs have been remained unchanged since the time of project formulation.</p>
		Is the Project in line with the needs of the target groups?	<p>The project is in line with the needs of the target group. Teachers need trainings to obtain proper knowledge and understanding of the curriculum 2006 and skill to implement SCIB science education in the class room. This needs have been remained unchanged since the time of project formulation.</p>
	Priority	Is the project consistent with the policies in Pakistan in terms of the following? 1) National Education Policy	<p>Both National Education Policy 1998-2010 and 2009 place Quality of Education as one of priorities. Improving Teacher Quality is part of it and in-service teachers' training in science is included in the issues to be tackled to improve the quality of education.</p>

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	<p>Is the Project consistent with the Japanese ODA policy and JICA plan for country-specific program implementation?</p>	<ul style="list-style-type: none"> Consistency with the Japanese ODA policy for Pakistan Consistency with the JICA plan for country-specific program implementation plan (Pakistan) 	<p>The Japanese ODA rolling plan for Pakistan lists one of basic education as priority areas.</p>
<p>Appropriateness as means</p>	<p>Has the project strategy been appropriate?</p>	<p>Has the project strategy been appropriate in terms of following point of view?</p> <ul style="list-style-type: none"> Approach of the project Selection of the target geographical area (all over the country) Selection of the target population (TPD, Master Trainers, Pilot area teachers) Selection of the target subject (General Science G4-8) Status of coordination and synergy effects with assistances from other donors Status of coordination and synergy effects with other Japanese assistances 	<p>Selection of the general science G4-8 was appropriate. While selection of geographical area should have been reexamined. Approximately 400 schools are in ICT and project trained 200 teachers during the pilot activities. It may be expected 200 numbers of trained teachers in ICT against 400 schools can impact teachers of other schools. On the other hand, number of schools and teachers of the provinces is big compared to that of ICT. The project, however, could train only a small number of master trainers from the provinces. Schools where master trainers were belonging to were scattered over the provinces and it is difficult for master trainers to get together for organizing the training by themselves. The number of trained master trainers in the provinces was not enough for making impact on the teachers in the provinces. The project design for allocating number of master trainers from province, therefore, was not effective and appropriate. While, it might have been more efficient and effective for achieving project purpose to select only ICT as a target geographical area. Nominating TPD members from all over the country was not so efficient and effective. It is better to nominate members who can easily devote more time for discussion and who are working under one control of responsibility. Since SCIB placed importance of interaction with students, TPD members should have had the teaching experience. The members might have been better selected from teachers, instead of textbook development administrators.</p>

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	Does Japan have a technical advantage?	<ul style="list-style-type: none"> Achievements utilizing Japanese technology for technical assistance Whether experience of the similar projects have been effectively utilized 	<p>Lesson study, popular Japanese training style was fully incorporated in the project activities. The Japan has various project experiences in student-centered science education.</p>
Other	Are there any changes in the project environment (politics, economics, social aspects etc.) since ex-ante evaluation?	<ul style="list-style-type: none"> Information on changes in politics, economics, social aspects etc. 	<p>Based on the 18th constitutional amendment in the country, Ministry of Education was devolved. Newly established CADD has more control over the ICT but less towards provinces compared to previous set-up.</p>
(2) Effectiveness (Prospect)	Achievement of the Project Purpose (Prospects)	<p>Is the Project Purpose likely to be achieved?</p> <p>Project Purpose: Effective SCIB training model that ensures teachers to deliver SCIB science lessons is established</p>	<p>See achievement</p> <p>The project purpose is mostly achieved except the % of teachers for G6&7 who practice at least 1 aspect of the SCIB concept.</p>
	Causal relationship (Contribution of Outputs to achieving	<p>Whether Project Purpose is to be achieved as a result of Outputs</p> <p>Whether the Outputs are sufficient for achieving project purpose</p> <p>Is the important assumption on the achievement of Project Purpose still valid / whether it is going to be fulfilled</p> <p>Important Assumption: Teaching environment will not be deteriorated than the current situation</p>	<p>The output 4 may not be directly contributing the achievement of the project purpose, though it is contributing the achievement of the overall goal.</p> <p>The outputs were sufficient enough to achieve the project purpose, while output 1 could have been a part of output 2. The output 2 & 3, therefore, might be good enough to achieve the project purpose.</p> <p>There was no major change of teaching environment in the country though there have been minor impact due to disaster and deterioration of law and order situation in the country. Overall, the project was not affected by these changes of teaching environment.</p>
		Are there any contributing / hindering factors to achieve project purpose?	<p>Contributing factors: Lesson study was effective as a training method. Simple and feasible training method was accepted by teachers.</p> <p>Hindering factors: Impact survey was conducted shortly after the training of G6&7 teachers, the effect of training was not reflected in the result of impact survey. G6&7 teachers need more time to practice through lesson study to equip SCIB teaching skills. It may be assumed that content of G6&7 are more and complicated than those of G4&5, which may make teachers to go back to more traditional way of teaching.</p>




	Achievement level of outputs	Has the Outputs been produced as planned? (Comparison between actual and targets/planned)	See Achievement. Output 1 was achieved though there is room for improvement of TPD members. Provincial members were easy to forget SCIB concept compared to ICT members. Output 2 was achieved to some extent. In 3 rd year Punjab course was filled only 50% against the target number due to the crash with the other urgent event. Those who have no chance to utilize their skills as master trainers may lose their level of expertise over the time if they cannot find the opportunity. Training of master trainers better to be conducted when schools are open. It is more beneficial for teachers to experience lesson study in real school environment, otherwise they will miss one of important component of the SCIB training program. Output 3 was achieved. Output 4 was achieved to some extent. The project maintained good liaison with provinces and could share the outcome of the SCIB project, however, the understanding of the project is somehow limited since they do not have pilot activities in their places and some provinces were inaccessible by the experts due to security concern, which limited the close communication with them. Limited involvement of provincial partners in the project design and security concern somehow affected the level of understanding of the project and the gaps in understanding of the SCIB concept by the provincial partners. The absence of the chance of utilization of the master trainers may affect the sustainability of the output.
(3) Efficiency	Causal relationship (Contribution of Activities to achieving outputs)	Whether the activities have been sufficient for achieving outputs? Whether the inputs have been sufficient for achieving outputs? Are the important assumptions on the achievement of outputs still valid / whether there are any influence Important Assumptions: 1) NISTE faculty members and master trainers continue to work. 2) NISTE PC1 budget for the Project is disbursed until the implementation of master trainer training in July 2010	For the output 1, due to delay of the development of text books by the GOP, activity 1-7 could not be conducted. Development of teaching plans, however, was completed. For the output 2, different venue of the master trainer training was introduced to contribute the achievement of overall goal. As a whole, activities were sufficient enough as far as for the achievement of the outputs. For the output 1, additional expert allocation was provided for the technical support of the Grade 8 teaching plan development support. <ul style="list-style-type: none"> NISTE's 4 technical staff of science background has retired in the 1st year and no replacement was allocated. Some master trainers were transferred from one school to another, however, no serious influence on the training program. PC1 budget for master trainer training were not approved and released. JICA had to bear the cost, but the project activities were completed as per the schedule.

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	Quantity, quality and timing of inputs	Have inputs from Japan and Pakistan been appropriate in terms of quantity, quality and timing?	<p>[Japanese side]</p> <ul style="list-style-type: none"> In Pakistan, school schedule were easy to be changed and sometimes unpredictable, while schedule of experts were firmly fixed. This created the difficulties in conducting training at the right time and places. For the Grade 8 development, one more chemistry/physics expert was better be allocated since the number of chapter of this fields was bigger than biology. Additional provision of PC facilitated the development work of teaching plans. <p>[Pakistani side]</p> <ul style="list-style-type: none"> Total number of technical staff of NISTE was not as per the plan. NISTE hostel arrangement was not satisfactory for some of the provincial participants, which created the decrease of number of participants for master trainer training. Cost for master trainer training was not approved and released. NISTE technical staff worked effectively with limited number of staff. Technical staffs of mathematics backgrounds were also worked for the project. JICA borne the master training cost.
(4) Impact (Prospect)	Prospect of achievement of overall goal	<p>How have problems of inputs in terms of quantity, quality and timing been coped with?</p> <p>Is Overall Goal likely to be achieved in about 3 years after the project? Can be proved at the time of post evaluation?</p> <p>Overall Goal: Effective teacher training model that ensures teachers to deliver student-centered and inquiry-based (SCIB) science lessons is utilized by other provinces and areas other than 5 pilot clusters in ICT according to their setup.</p> <p>Are there any hindering factors to achieve</p>	<p>Overall goal is expected to be achieved in the case of ICT if the necessary funds were secured by the effort of the management. Both FDE and CADD management as well as NISTE have will to continue the training program. The FDE and NISTE learned the whole cycle of the activities and the guideline were compiled. With this experience and tools, they can continue their work.</p> <p>As for the provinces, additional technical support might be required for conducting the training which suit with their own set-up and system. The NISTE is willing to support the provincial partners in this regards and CADD will try to seek the funds for that. While for the provinces not only the technical support is required, but also the support from the management side as well as financial resources are required, which could not be witnessed at the time of evaluation. There are, however, several attempts by the master trainers and TPD members for replicating the training program at their own efforts. If these efforts are will recognized and supported by the management side, there is a possibility that SCIB training will continue even in a small scale in the provinces.</p> <ul style="list-style-type: none"> Securing the financial resources is the challenges for the continuation of the training program in ICT. Support from administration / management for the introduction of the training program can be a challenge for the provinces. Achievement of the project purpose is promoting the likely achievement of the overall goals.
	Causal relationship	<p>Is project purpose contributing to the likely achievement of overall goal? Are there any gaps between project purpose and overall goal?</p>	

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		<p>Is the important assumption on the achievement of project purpose still valid / whether it is going to be fulfilled?</p> <p>Important Assumption:</p> <ol style="list-style-type: none"> 1) Provincial authorities secure the budget for teacher training on SCIB science education 2) New textbook on science are employed no later than 2012 academic year 3) Federal and Provincial Governments and provincial education authorities put high priority on dissemination of SCIB science education 	<ul style="list-style-type: none"> • Securing the budget for teacher training on SCIB science education by provincial authority is challenge, which will influence on the likely achievement of overall goal. The insecurity of the regular budget for the training of FDE might hamper the scale up of the training program in ICT. • Introduction of the new textbook on science will be made mostly in 2014 (though it varies by provinces and by grades), which, however, will not hamper the likely achievement of overall goal. • Curriculum and policy will most probably continue. The dissemination of SCIB concept on science education, therefore, will continue.
	<p>Ripple effects</p>	<p>Is there any positive impact (positive/negative) other than the Overall Goal / Is there any measurement for minimizing negative impact?</p>	<ul style="list-style-type: none"> • The part of ideas incorporated in the teaching plan developed in this project was adopted in the teacher's guide developed in Punjab. • In Punjab, lesson study training method was introduced in one of the pre-service training and NISTE resource person was invited to share the knowledge. • Master trainers in Hyderabad district of Sindh province organized 13 days teacher training program voluntarily with the support from district office. Lesson study was also organized in some schools of Hyderabad in Sindh province. • In KPK, the TPD member and master trainer were the resource person for the 100 master trainer training for General science 4 & 6 organized by the textbook board. • In Balochistan 9 master trainers trained 35 more master trainers by the initiative of Bureau of Curriculum and Extension Center.
<p>(5)Sustainability (prospect)</p>	<p>Policy and institutional environment</p>	<p>Any policy/institutional setting likely to continue in the following</p> <ul style="list-style-type: none"> • National Education Policy • Provincial Education Sector Plan 	<ul style="list-style-type: none"> • Introduction process of curricula 2006 is in progress, though it is gradually. This process will likely to continue. • National Education Policy 2009 which highlights importance of quality of education will remain.

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<p>Organizational and financial aspects</p>	<p>Have human resources been developed to continue/scale-up/disseminate the approach and outputs/effects of the project after the project ends? Do C/P organizations and personnel have a sufficient sense of ownership of the project?</p>	<ul style="list-style-type: none"> • NISTE is willing to continue the training program and awareness raising seminars for ICT as well as provinces. • Some master trainers in the provinces showed strong will to disseminate the training at their own levels.
<p>Technical aspects</p>	<p>Have C/Ps organizations undertaken measures to secure sufficient funds for continuing / scaling-up / disseminating the project approach and outputs / effects?</p>	<ul style="list-style-type: none"> • NISTE has strong sense of ownership. The team experienced the whole cycle of activities and they owned the project. • FDE has sense of ownership, especially for the training guidelines, which was developed close collaboration with FDE, NISTE and the project team. • CADD has strong sense of ownership. The leadership has future view of how to implement the project activities in ICT as well as future view of collaborating with provincial partners. • Provincial sense of ownership is somehow limited due to the limited involvement of the project activities compared to those of NISTE, ICT.
	<p>Have the methods of technical assistance been accepted (appropriateness of technical level, social/cultural aspects)? Can C/P be technically independent and implement/sustain the project approach after the Project?</p>	<ul style="list-style-type: none"> • NISTE tries to obtain the budget for training for the next year to continue the training program. Annual PC1 is under preparation. • FDE has included the budget for SCIB training in next year's budget request. 18% of the total budget is allocated to the portion of SCIB training. However, the availability of the budget is subject to the approval. • No provincial stakeholders has secured budget for the SCIB training. However, the CADD might try to obtain the fund for training for the provinces as a national organization.
		<ul style="list-style-type: none"> • Training methods is simple, feasible and economical, which matches the needs of teachers and accepted well by C/P and master trainers.
		<ul style="list-style-type: none"> • NISTE has equipped the technical skills to implement the project approach after the project.