2.4 Technology action plan, project ideas, and other issues in forestry and land use change

2.4.1 Plant science/plant genetics

2.4.1.1 Technology action plan for plant science/plant genetics

a) Aggregation and rationalization of measures identified for technology acceleration

Similar to the above section, the list of measures identified for formulation of a national strategy to accelerate the development and transfer of technologies can be seen in Table 36.

Table 36 - Aggregation for strategy formulation

Strategic measure	Accelerating innovation RD&D	Accelerating deployment	Accelerating diffusion
Creation of networks			
Creating network for technology application	X	X	X
Policies and measures			
Developing seed selection procedure	X	X	X
Organizational/behavioral change			
Increasing research for new climate change-tolerant varieties	X	XX	XX
Market support actions			
Raise awareness on research outcomes	X	XX	XX
Product subsidization			
Skills training and education			
Capacity building for staff members	X	XX	XX
International cooperation IPR			
Improve bilateral and multilateral cooperation			

* Note: see Note under Table 25

b) Prioritization and characterization of technology acceleration measures for a national plan

Similar to the above sections, the list of measures identified for the acceleration of technologies and the innovation stage structured under the core elements of a national strategy are identified and aggregated in Table 37 below.

Table 37 - Prioritization and characterization of technology acceleration measures

Sector: Forestry and land use change							
Specific Technology and category: Plant science/plant genetics/ Large scale, long-term							
Innovation stage: Deployment – Diffusion							
Measure (grouped under core elements)	**Prio-rity**	**Why is it important?**	**Who should do it?**	**How should they do it?**	**Time-scale**	**Monitoring, reporting and verification for measure**	**Estimated costs (1,000 USD)**
Creation of networks							
Creating network for technology application	1	Helps to facilitate the diffusion of new scientific achievements into economic activities	MOST, MARD, Forestry Administration	Assess existing networks Create options for strengthening capacity of the networks Create a network for technology application	3 years	MOST MARD	144
Policies and measures							
Developing seed selection procedure	1	Ensures and enhances the efficiency of application of the technology	MARD	Develop criteria and standards of the procedure Carry out pilot projects to apply the procedure, draw lessons for a complete, appropriate procedure	1 year	MARD	14
Organizational/behavioral change							
Increasing research for new climate change-	1	Helps to meet the national demand Facilitates the creation of new	MOST, MARD, research	Make research plans for creation of new varieties	7 years	MOST, MARD	240

tolerant varieties		varieties that can tolerate changing climate conditions Increases national research activities	institutes	Invest on research facilities, equipment and infrastructure Pilot and diffuse the technology on a large scale			
Market support actions							
Raise awareness on research outcomes	2	Helps to expand and promote the outcomes of research	MARD, MOST,	Introduce the research outcomes through mass media Organize workshops for introduction of the research outcomes and experience sharing	3 years	MARD	72
Product subsidization	2	Subsidization is needed to encourage the deployment of this technology	MARD, MOF	Develop product subsidization schemes Mobilize financial resources from forestry support funds	5 years	MARD, MOF, MPI	360
Skills training and education							
Capacity building for staff members	1	Helps to form a basis for technology innovation and transfer	MARD, MOET	Develop capacity building programs and materials for staff members Organize training courses and forums to exchange experience	3 years	MARD, MOET	58
International cooperation and IPR							
Bilateral and multilateral cooperation	2	Helps to take advantage of international resources and experience Gains rapid access to latest scientific achievements	MARD, MOST, MOET	Organize overseas study tours Develop cooperation with experienced international organizations	10 years	MARD, MOST	96

* Note:

(1) See note under Table 26

c) Finalizing national strategy

Based on priority technology action plans in the sub-sectors, a national strategy and action plan for the development targets of plant science/plant genetics are presented in Table 38.

Table 38 - National Strategy (technology transfer and development for adaptation)

	0-5 years	5-10 years	10-15 years
Large-scale, long-term technology			
Plant science/plant genetics			
Creating network for technology application	X		
Developing seed selection procedure	X		
Increasing research for new climate change-tolerant varieties	X	X	
Raise awareness on research outcomes		X	X
Product subsidization		X	X
Capacity building for staff members	X		
Bilateral and multilateral cooperation	X	X	X

2.4.1.2 Brief summary of project ideas for international support (Annex 3)

2.4.2 Agro-forestry

2.4.2.1 Technology action plan for agro-forestry

a) Aggregation and rationalization of measures identified for technology acceleration

Similar to the above section, the list of measures identified for formulation of a national strategy to accelerate the development and transfer of technologies can be seen in Table 39.

Table 39 - Aggregation for strategy formulation

Strategic measure	Accelerating innovation RD&D	Accelerating deployment	Accelerating diffusion
Creation of networks			
Establishing agro-forestry extension taskforces	X	X	X
Raising public awareness on natural resources protection	X	X	X
Policies and measures			
Facilitating investment on development	X	X	X
Organizational/behavioral change			
Land planning for agro-forestry in mountainous regions	X	X	X
Developing Implementing sustainable agro-forestry modal	X	XX	XX