

Socialist Republic of Vietnam*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

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Market support actions			
Developing system for product distribution and consumption	X	XX	XX
Skills training and education			
Capacity building for agro-forestry extension officials	X	XX	XX
International cooperation and IPR			
Bilateral and multilateral cooperation	X	XX	XX

*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 40 below.

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Table 40 - Prioritization and characterization of technology acceleration measures for a national plan

Sector: Forestry and land use change							
Specific Technology and category: Agro-forestry/Small scale, short-term							
Innovation stage: Deployment – Diffusion							
Measure (grouped under core elements)	Pri- ority	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							
Establishing agro-forestry extension taskforces	1	Helps to take advantage of experts involved in the taskforces	MOST	Create a network of agro-forestry extension at the local level, consisting of local official and providing allowance	5 years	MOST, MONRE	355
Raising public awareness on natural resources protection	1	Helps to raise awareness of people in order for them to make the right, sustainable decisions	Provinces	This will be done through mass media, by extension taskforces and training courses	5 years	People Committee	14
Policies and measures							
Facilitating investment on development	2	Helps to encourage people to use the technology Helps to promote the technology on a larger scale	MOF, SB, MARD	Review, develop and implement loan policies, measures with convenient, simple procedures	3 years	MOF, MARD	288
Organizational/behavioral change							
Land planning for agro-forestry in mountainous regions	1	Creates land resources for te technology application Accelerate the diffusion of technology in	MPI, MARD, MONRE	Investigate and develop uniform planning for all regions	3 years	MPI, MARD, MONRE	288

Part II – Technology Action Plans

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		potential localities		Implement the planning			
Implementing sustainable agro-forestry modal	1	Helps to change the traditional behaviors and accelerate the diffusion of the technology	MOST	Choose an area to apply the modal Assess the results of the modal application Multiply the application on a large-scale	3 years	MARD, MOST	96
Market support actions							
Developing system for product distribution and consumption	2	Helps to increase the product value and household income Contributes greatly to the poverty alleviation program in rural and mountainous areas	MARD, MOIT, local People's Committees	Organize a system of market outlets for the products Establish wholesale markets	2 years	MARD, MOIT	96
Skills training and education							
Capacity building for agro-forestry extension officials	1	Helps to relay the knowledge to people Ensures the efficiency of the modal	MARD, DARDs	Organize training courses for agro-forestry extension officials	3 years	MARD	14
International cooperation and IPR							
Bilateral and multilateral cooperation	2	Helps to take advantage of international resources and experience Gains rapid access to newest 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](#)

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Based on priority technology action plans in the sub-sectors, a national strategy and action plan for the development targets of agro-forestry technology are presented in Table 41.

Table 41 - National Strategy (technology transfer and development for adaptation)

	0-5 years	5-10 years	10-15 years
Small-scale, short-term technology			
Agro-forestry			
Establishing agro-forestry extension taskforces	X		
Raising public awareness on natural resources protection	X		
Facilitating investment on development	X	X	
Land-use planning for agro-forestry in mountainous regions	X		
Developing and implementing sustainable agro-forestry modal	X		X
Developing system for product distribution and consumption		X	
Capacity building for agro-forestry extension officials	X		
Bilateral and multilateral cooperation	X	X	

Note: This is a small-scale and short term technology with implementation time less than 5 years but hold position number 1 for priority, which means it need to implement immediately. Therefore strategic time for this technology is around 10 years back

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

2.5 Summary

With wide diverse arrays of biological organisms, Vietnam's research on the application of biotechnology to increase plant production based on the existing gene pool for agricultural, forestry, fishery production and germ plasm conservation to enhance the quality of biological products has been the key direction of Vietnam's biological technology in recent years. However, despite the large investment, Vietnam's biotechnology still lags far behind other countries in the region and in the world. It has yet been able to meet the demand for socio-economic development or create key products for the national economy. To diffuse this technology, in addition to these above measures, there is a need for a biotechnology center functioning as a coordinator between research institutes, production facilities, marketing agencies, etc. Besides, more investment should be placed on research by business sector to support the application of research ideas into production.

Agro-forestry is one the most effective measures that MARD has been specifically interested in developing in the future. Several barriers, however, need to be addressed in order for the development of this technology as follows:

Land management: Land planning should put an emphasis on agro-forestry planning to the commune level; planning must be long-term to encourage people to invest on the technology.

Research and development of biotechniques: Search for soil improvement and sustainable cultivation methods on different eco-regions, find suitable agro-forestry modals for poor people.

Incentive policies (agro-forestry extension, etc.) must prioritize remote areas, extremely poor areas, integrate into other projects, programs to maximize the effectiveness of agro-forestry, or provide loans for production.