



The application of foresight in Vietnam: Initial results and orientations for coming years

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I. Renovations in S&T Policy

Law on Science and Technology (effected in 2000)

- Confirmation of the importance of S&T development by the state as a first-rank national policy, playing the leading role in the work of building and protecting the nation, and serving as the foundation and motive force for industrialization, modernization and sustainable development of the country.
- The State ensures conditions and increased budget for S&T development in priority areas (since 2001 the share of S&T state expenditures has increased from 1,4% up to 2% of total state budget expenditures); encourages enterprises to invest in technology innovation; and encourages organizations, individuals to carry out research and application of S&T achievements into production, business and life.

Law on Science and Technology (effected in 2000)

- Reform of research and financial management for state research programs by introducing a new mechanism for selection of organizations and individuals to carry out research projects based on competitiveness with an open, fair, democratic and objective approach, opening equal access to financial sources for all organizations and individuals based on competitiveness; and setting up a National Foundation for S&T Development.
- Creation of the legal basis for developing a technology market in terms of protecting intellectual property right; granting S&T organizations and individuals the right to sign S&T contracts with industries; allowing universities and R&D institutions to set up spin-off enterprises and companies based on the application of research results.
- Expansion of the autonomy of state-owned S&T organizations with regard to R&D activities, labour and financial management, and international relations.

Law on Science and Technology (effected in 2000)

- Renovation in international S&T cooperation, namely application of an open-door policy and focus on S&T advanced countries in the world.
- Reform of S&T state management to be more decentralized; elimination of state monopoly in S&T activities in terms of adopting the right of all organizations and individuals to carry out R&D activities and to set up non-state R&D units [1].



- [1] In year 2000 there were about 900 R&D institutions, in which 263 non-government institutions; and 167 higher education schools (universities and technical colleges), in which 19 non-government ones.



II. S&T Foresight Unit and its first activities

- 1. Setting up a S&T foresight unit in 1999.**
- 2. Training activities of S&T foresight unit.**
- 3. Pilot projects on foresight in Vietnam.**

Setting up a S&T foresight unit in 1999:

- ◆ *S&T foresight Unit is established in 1999 under NISTPASS.*
- ◆ *Core staff : 4 researchers / 80 staffs of NISTPASS.*
- ◆ *Missions: studying and applying foresight approach in identifying S&T priorities to be serving for preparing S&T strategy options, submitting to the Government.*

2. Training activities S&T foresight unit:

- ★ *Capacity Building of the the staffs: sending personnel to APEC TFC and to STFC, NISTEP, Japan to learn and study about Thai & Japanese experiences;*

- ★ *Training courses on foresight approach*
 - ★ *APEC Symposium: " Technology Foresight for Development" (2001).*
 - ★ *Training workshop on the application of foresight in food processing (2001).*
 - ★ *Training workshop on the application of foresight in Vietnam's tea industry (2002)*

Pilot projects on foresight in Vietnam (1):

- **Project 01:** *Studying theoretical and practical bases of foresight application for selecting S&T priorities in Vietnam. The Project focused on following questions:*
 - First: is the foresight approach an suitable one that could be replaced for traditional forecasting methodology to upgrade the quality of the process of prioritizing S&T development in complying with new context?
 - Second: what are the implications, Vietnam could draw from the experience of foresight projects and studies in the world?
 - Third: in the case of answer is yes, so how Vietnam should organize the application of this kind of technique in coming years?
 - ***The result of this project served as rationality for setting up TF unit under NISTPASS***

Pilot projects on foresight in Vietnam (2):

- ◆ **Project 02:** *Application of foresight approach to identify S&T priorities in Vietnam: the case of tea industry*
 - The project concentrates on identifying and selecting methods and procedures of applying foresight approach, especially scenario technique in some areas.
 - case of Vietnam tea industry: application of scenario procedures for planning the sector's development

Some first results of tea development foresight

Key issues identified:

1. Major issue is quality - range across production, post-harvest and processing
2. Quality is related to customer demands: nutritional needs, safety, presentation
3. How to improve quality - some suggestions:
 - better management across food chain;
 - more training and development of human resources
 - better seed;
 - better technology and equipment in processing;
 - new product development (i.e. organic teas);
4. Role of government important in assisting industry with export markets, developing policy for the roles of private sectors & state owned enterprises (SOEs).

20 key drivers of change influencing key issues (1):

1. Increased awareness of environmental problems creates demand for 'clean' tea grown with organic fertilizers in Vietnam.
2. Raising incomes of population creates demand for high quality teas in Vietnam.
3. Population increase raises demand for all qualities of tea.
4. Application of biotechnology in Vietnam leads to new varieties of tea which open new markets.
5. Development of long term storage (up to 24 months) for tea enables better production planning.
6. Application of genetic manipulation in Vietnam produces better seeds with improvement in production.
7. Installation of improved tea processing equipment leads to higher productivity and lower production costs.

20 key drivers of change influencing key issues (2):

8. Improved management techniques enable better integration of tea production system in Vietnam.
9. Increased international competition forces major changes to meet market demands.
10. Downturns in demand in major markets, e.g. Britain and Russia, lead to improved marketing expertise to develop new markets.
11. Reforestation in highlands using tea planting opens up new production areas with implications for labor, transport, and processing.
12. Possible development of new hydroelectric schemes e.g. Son La open up possibilities for new irrigated production areas.
13. Continuing climate change due to manmade emissions leads to water shortages, necessitating new technologies for water control and management in tea plantation.

20 key drivers of change influencing key issues (3):

14. Integration of Vietnam into world trading blocs opens new markets for tea but increases competition on domestic market.
15. Successful privatisation (equitisation) of Vietnamese tea SOEs leads to increased efficiency but with social problems in labor force.
16. Government policy is to maintain SOEs but to increase funding to enable competition with private sector.
17. Research breakthrough in Vietnam produces new alcoholic beverage based on tea, with its anti-aging properties opening new markets in Europe and Japan.
18. Increase of demand for high quality green tea will lead to increasing demand of importing new varieties.
19. Market mechanism leads to change of proportion of labor to service sector with its implication to HRD.
20. Development of production line for instant tea with natural fragrance and mixed flavors opens up new market

16 uncertainty items identified (1):

a) Wars:

External:

- 1) Sri Lanka
- 2) Iraq
- 3) Civil war in China

Internal:

- 4) Independence for highlands

b) Health

- 5) Coffee out - tea in
- 6) People change drinking habit


16 uncertainty items were identified (2):

c) Environment

- 7) Droughts in Kenya
- 8) Severe El Nino
- 9) Disease of tea in Vietnam
- 10) acid rain destroys tea plantation
- 11) over-exploitation of forests leads to land degradation

d) Economics

- 12) Russia/China - new markets
- 13) import restriction in Vietnamese tea
- 14) Exports down due to poor quality
- 15) Glut of tea - industry collapses
- 16) Economic recession reduces demand



*Some first results of tea
development foresight*

4 scenarios of tea sector development:

- ◆ *Vietnam-the tea super-power;*
- ◆ *Vietnam tea-integrated part of the contemporary life;*
- ◆ *Vietnam tea-Attractive of life and*
- ◆ *gray picture of Vietnam tea.*

Critical strategic areas identified for Vietnam tea industry up to the year of 2020 (1)

1. Quality:

- **improving yield**
- **strengthening research capability**
- **strengthening processing and packaging**

2. Marketing:

- **Advertising and brand name building**
- **understanding competition - benchmarking**
- **understanding market needs**
- **identifying new markets**

Critical strategic areas identified for Vietnam tea industry up to the year of 2020 (2)

3. Management:

- **training in technology**
- **training in trade and marketing**

4. Policy:

- **funding of new equipment**
- **government support of industry in trade negotiations**
- **clear policy on land use and development**



III. Some orientations for coming years

- ◆ to publicize knowledge and practical experience on foresight over different communities in Vietnam: **policy-makers, researchers, entrepreneurs, and professional associations.**
- ◆ to expand more test projects of foresight application over some other industries, products and sectors in the economy.
- ◆ to apply modeling and S&T trends analysis techniques as supplements for scenario procedure.
- ◆ To set up a network of experts in some selected areas.
- ◆ To cooperate with other R&D institutes in the country and with foresight institutions in the Region and in the world.