

Innovation

PARTNERSHIP GRANTS

Guidelines for applicants Round 4August 2023

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1. BACKGROUND

Innovation is a priority for the Governments of Australia and Vietnam as a means to accelerate inclusive economic growth. As such, Innovation is a key pillar of the bilateral relationship between the two governments and is well reflected through the Australia-Vietnam Innovation Partnership, which outlines the shared aspiration to become innovation-led economies.

Under this bilateral innovation collaboration, a flagship partnership program – Aus4Innovation – has been designed with a specific goal to help strengthen Vietnam's innovation system, so it is capable of responding to a changing context and supports inclusive and sustainable socio-economic development.

Aus4Innovation is a ten year, AUD 33,5 million development program. It is funded by Australia's Department of Foreign Affairs (DFAT), co-funded and managed by the Commonwealth Scientific and Industrial Research Organization (CSIRO) and delivered in strategic partnership with Vietnam's Ministry of Science and Technology (MoST). Launched in 2018, the program has successfully completed its first five years, and after going through a 'design refresh', the program will have a stronger focus on resilient agriculture and food across the next five years.

The program now contains four key inter-related work streams, including:

- Innovation Policy Dialogues
- Network of Innovation Actors
- Innovation Funding and Finance, and
- Innovation Partnership.

More information of these work streams be found in Annex 1.

2. THE INNOVATON PARTNERSHIP GRANT

The Innovation Partnership Grant (the Grant) is the main activity under the Innovation Funding and Finance work stream, and has been a critical feature of the Aus4Innovation program. It is expected that the Grant will provide evidence and learnings to inform policy discussions under the Innovation Policy Dialogue, connect to the Network of Innovation Actors, and contribute to the Innovation Partnership work stream.

The Grant aims to provide targeted funds to scale already tested activities that address emerging challenges or opportunities across Vietnam's innovation system.

Tested activities are defined as technologies or activities with:

- an existing proof of value
- an articulated market segment or path to impact, and
- an existing relationship between an Australian and a Vietnamese entity.

The Grant is operated on a competitive basis, and the final decision on funding is at the discretion of the A4I Steering Committee. Members include:

- A senior representative from the Ministry of Science and Technology
- A senior representative from the Australian Embassy, Hanoi
- A senior representative from the CSIRO

- Director of the Aus4Innovation Program Office; and
- A representative from Vietnam's Private Sector.

So far, three grant rounds (Round 1, 2, and 3) were carried out, with a total of 12 projects funded all delivering excellent results. More information of the previous grant projects can be found here.

Details of Grant Round 4 are as below.

3. GRANT ROUND FOUR

3.1. Grant Theme

The theme of this Grant call is:

"High Tech Innovation to Address Challenges in Agriculture for Sustainable Development"

Specifically, under this theme, Grant Round 4 is looking for innovations, based on **the application** and / or transfer of high-technologies to address challenges in the agriculture sector, with the ultimate goal to contribute to sustainable development.

Further articulation of the theme includes:

High technology¹: This Grant round adopts the definition of High Technology and related terms, such as High Technology Activities, High Technology products etc. from the Law on High Technologies. Some citations are as follows for quick reference:

High Technology means:

- technology with a high content of scientific research and technological development;
- integrated from modern scientific and technological achievements;
- creates products with outstanding quality and features, high added value, environmentally friendly;
- plays an important role in the formation of a new manufacturing or service industry or the modernization of an existing manufacturing or service industry.

Hi-tech activity means hi-tech research, development, seeking, transfer and application; hi-tech human resource training; hi-tech incubation or hi-tech enterprise incubation; hi-tech production and hi-tech service provision; and hi-tech industrial development activities.

Hi-tech product means a product turned out with high technology, which is environmentally friendly and has superior quality and utilities and high added value.

Challenges in the Agriculture sector: while agriculture plays a significant role in the Vietnamese economy, it faces a number of challenges that require breakthrough solutions. Some challenges to note are – but not limited to:

- Improving the productivity in agricultural production and processing, for example, less use of production inputs, post-harvest loss reduction, or utilisation of agricultural waste
- Enhancing the efficiency of soil, water, fertilizers, pesticides etc. in agriculture production

¹ Clause 1, Article 3 of the 2008 Law on Technology

- Facilitating the development of domestic and export markets for agricultural products, for example, digitalized traceability or initiatives to improve the quality of products during transportation.
- Contributing to climate change adaptation / mitigation, and resilience in the agriculture sector.
- Ensuring benefits for disadvantaged groups, including women, people with disabilities, ethnic minorities, or communities living in areas that are under-developed, or exposed to the severe impact of climate changes.

Sustainable Development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. For sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection.

Potential applicants are encouraged to learn more about challenges in the agriculture sector identified through the collaborative innovation platforms that have been developed by the Aus4Innovation program under the Network of Innovation Actors (more information are available in Annex 1)

3.2. Eligibility

- Applications will only be accepted from an existing partnership that includes at least one Vietnamese and one Australian organisation. Indication of the existing nature and duration of the partnership is requested.
- The Vietnam-Australia partnership may include additional partners.
- Eligible organisations may include any private, public sector, universities, research institutes, or civil society organisation operating in Australia and Vietnam.
- Organisations submitting an application must have no reason preventing them from operating in Vietnam.
- Applications are encouraged to demonstrate how they are including one or more of the following targeted social groups: women, people with disabilities, ethnic minority groups and LGBTQI through a mainstream approach (inclusion of social groups in the innovation) or targeted approach (social groups are targeted in the innovation).
- Women and disabled-focused organizations, and initiatives that could bring benefits to women, girls, and people with disabilities either directly or indirectly are encouraged to apply.
- Initiatives that could bring benefits to disadvantaged communities, for example, in mountainous or remote areas, either directly or indirectly are encouraged to apply.
- Initiatives that prove to strongly align with / build on work delivered through other Aus4Innovation activities (i.e. the collaborative innovation platforms, policy dialogue etc) will be an advantage.
- Initiatives that engage private sector partners significantly will be considered favourably

Applications that include one of the following are considered ineligible:

- Partnerships established for the purpose of applying for grants under this mechanism (i.e. there isn't a pre-existing partnership)

- Activities that have already received funding from other sources for a similar scope of work (e.g. as a duplicate funding source)
- CSIRO, the managing agency for this program, and its employees (to avoid conflict of interest)

To note: the proposed innovation and practices must not conflict with the interests of the agency funding body. Any interest which conflicts, has the potential to conflict, or could reasonably be thought to conflict, must be declared and assessed.

4. FUNDING WINDOW

4.1. Funding amount and timelines

This grant round will be open for applications from 24 August – 25 September 2023.

Total value of this Grant round is approximately AUD 2 million, with individual grant values awarded between AUD 250,000 and AUD 700,000.

Grant projects are provided up to 24 months to complete the defined project scope, upon signing of the Grant contract.

4.2. Management

The grant will be awarded through the lead Australian partner in the existing partnership, who will be held accountable for the management of the funded activities to ensure effectiveness, value for money, and compliance.

A schedule for the transferral of funds will be negotiated with each successful applicant. First payment tranche will likely be paid upon commencement of the project. Further tranches will likely be paid upon acceptance of progress reports, and project conclusion, taking into account expenditure to date.

Any undisbursed funds will be returned to Aus4Innovation at the end of the activity.

5. USE OF GRANT FUNDS

5.1. Principles

Grant funding originally comes from the Official Development Assistance (ODA) resource of the Australian Government's Department of Foreign Affairs and Trade (DFAT). ODA funds are administered "with the promotion of the economic development and welfare of developing countries" as its main objective. Potential applicants are encouraged to learn more about ODA funds' objectives and eligibility here.

For Aus4Innovation, grant activities must have an anticipated and measurable social or development impact. Articulation of the pathway to realizing the scale and sustainability of that impact is recommended in the EOI.

In circumstances where the Australian lead partner is a private business, Private sector engagement in Australia's aid program: Operational Framework will be the guiding document. Private businesses are also encouraged to refer to:

- OECD's relevant papers on strategic private sector engagement, such as the "Towards strategic private sector engagement"; or

UNDP's SDG Impact Practice Standards for Private Equity Fund

to articulate how its initiative can deliver societal development outcomes and contribute to growth.

Training, student costs, and scholarships for individuals will not be considered for grants. It is not intended to exclude curricula development, or sector skills development, but rather to distinguish this from individual training programs.

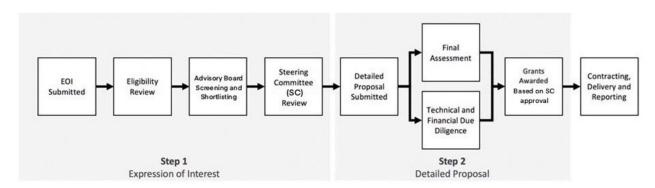
5.2. Tax payment

Partners must pay any tax liability arising from the proposed activity. Taxes cannot be paid for with Aus4Innovation grant funding and must not be counted toward the in-kind contributions of the partners.

6. APPLICATION PROCESS

There will be a two-step process for the submission of applications.

Step 1:



An Expression of Interest (EoI) is submitted by the partners, describing the concept of the initiative, and outlining the proposed activities and alignment with assessment criteria. EOIs will be assessed by an Advisory Board established by the Aus4Innovation Program Office that includes research, technology, and development experts. The shortlist will be submitted to and approved by the Aus4Innovation Steering Committee.

Step 2:

Shortlisted applicants will be invited to develop a detailed proposal for further assessment by the Advisory Board.

During this process, further support will be provided by the Aus4Innovation Program to help enhance the proposals. Depending on the actual shortlisted EoIs, this may include:

- A workshop to provide an overview of the Aus4Innovation program, how the grant activity (and the potential funded grant project) can contribute to the overall objective of the program, and other requirements if grant funding is provided.
- Skill development in partnering and targeted partnership brokering if required for the project partners to support partnership strength and effectiveness in delivering the committed grant outcomes.

- o Technical inputs to the innovation ideas to maximize their potential.
- Other inputs provided on social cross-cutting issues, including gender equality, disability, social inclusion, environmental, safeguard etc., which are key elements to an aid funded program.

Depending on the nature of the lead organizations in the partnership, due diligence on those organisations will be performed by Aus4Innovation as part of the final grant application review process.

Final decision on grant awards will be made by the Aus4Innovation Steering Committee.

7. APPLICATION PLATFORM

Submission and assessment of applications will be through the Aus4Innovation SmartyGrants portal https://csiro.smartygrants.com.au.

English will be used as the main language throughout the application process. However, it is requested that the Expression of Interest (EOI) and the Detailed Proposals (if the applications are shortlisted) will be proposed in dual languages, i.e. both English and Vietnamese.

8. GRANT PROCESS TIMELINE

The planned timeline for applications, selection, and implementation is presented below. Please note some dates may be subject to change.

Applications for EOI open	24 Aug – 25 Sep 23
Shortlisting	Early Nov 23
Detailed proposal development and submission (including technical workshops from A4I office)	Early Dec 23
Technical clarification, Due diligence, grant agreement negotiation	Early Feb 24
Final selection announcement grant agreement signed	Mar 24
Implementation	Mar 24 – Mar 26

(Planned timelines are indicative, depending on the actual number of applications received. The A4I office is responsible for providing updated information /timeline to applicants)

9. REQUEST FOR CLARIFICATION

During the application process, should applicants have any questions or need further clarification to complete the EOI form, they can email aus4innovation@csiro.au, noting that phone calls are not encouraged. The Aus4Innovation Program Office will make the best effort to respond to such inquiries via email within seven (07) working days. Those enquiries and their responses will be published on the Frequently Asked Questions on the Aus4Innovation website for common understanding of potential applicants.

10. CONFIDENTIALITY

Applicants should be cognisant of their own need to retain security over actual or potential intellectual property rights.

Submitted application data will be kept in strict confidence by DFAT, CSIRO, and Aus4Innovation reviewers. Personnel are bound by confidentiality or non-disclosure arrangements. Applications, however, might be reviewed by independent appraisers, allowing third-party members and their personnel to access data. Aus4Innovation, DFAT, and CSIRO cannot take responsibility for the loss of any information outside their direct control. Applicants are reminded to consider the above, before disclosing potentially sensitive information, and to seek professional legal advice.

11. GRANT ASSESSMENT

11.1. Assessment principles

Assessment of applications will be based on the following criteria:

- Partnerships and partnering practice
- Innovation
- Readiness
- Relevance to Vietnam high-tech Agriculture
- Private sector engagement, and
- Social, economic, and environmental impact

11.2. Partnerships and partnering practice

The grants program intends to support established partnerships to advance or scale up an existing innovative idea. The grants program is not intended to test activities, but rather to invest in the scaling of more mature ideas and partnerships.

As indicated in the eligibility section, the partnership will comprise (at least) a Vietnamese and an Australian entity. The partnership must predate the application, but it may previously have been created around a different activity to the one funded by the grant. Partnerships with women or people with disability in lead or senior research/scientific roles are encouraged to apply.

Grants will not fund the creation of new partnerships between the two countries. New partners may be brought into the activity to support the lead partners through funding, skills, or expertise. Applicants will articulate their commitment to the partnership for the grant activity and beyond.

The partnership needs to indicate its capacity and experience to successfully deliver projects. Partners should be able to describe how key project components have been mutually agreed and/or developed, such as shared objectives, a common understanding of the projects, and partnership-related risk management. The partner must also be able to describe any formal partnership agreements (for example, memorandum of understanding or contracts) as well as informal, mutually agreed ways of working that address shared understanding of partners' organisational, cultural and sector differences that may or may not be documented. Further support by A4I will be provided for shortlisted applicants to develop the partnership quality.

11.3. Innovation

As discussed in the Grant Theme (Section 3.1), the Aus4Innovation program is looking for innovations that are high-tech based that help address challenges in the agriculture sector in Vietnam.

The innovation, to the minimum extent, should be able to present:

- its novelty in Vietnam's context
- the **complexity** of technology it introduces
- the **compatibility** to relevant systems in Vietnam (infrastructure, human resources, policy support etc.)

Among different high technologies that applicants may propose to apply, initiatives based on Artificial Intelligence will be prioritised.

For all initiatives, applicants are recommended to refer to the list of requirements in Annex 2 to ensure that their solutions can align to Responsible Innovation.

11.4. Readiness

The purpose of the grants program is to provide targeted funds to scale already tested initiatives to address emerging challenges or opportunities in the agriculture and food sector, and contribute to the enhancement of Vietnam's innovation system.

Applicants are asked to demonstrate clearly and succinctly how to scale their ideas. To be eligible for grants, proposed activities will have an **existing proof of value** and articulated market/system engagement, **path to impact**, and demonstrate a realistic vision for **long-term sustainability**.

More specifically, applications will be judged against:

- **Feasibility/ Deliverability**, i.e. skills and capacity to deliver the project by the project teams, reasonable timeline, associated risks to /during the implementation of the project
- **Economic viability**, i.e. the net benefit the initiative can bring to Vietnam and possibly to Australia, such as improving economic growth, productivity, efficiency, safety, etc.
- Affordability: i.e. the appropriateness of the program budget and long-term funding implications

11.5. Relevance to high-tech and sustainable agriculture development in Vietnam

Applicants of this Grant round should consider a number of key documents issued by the Government of Vietnam as guiding documents to justify how their ideas are relevant to Vietnam's long-term plan and vision towards high-tech and sustainable agriculture development. Some suggestions include:

- Science, Technology and Innovation Development Strategy for Vietnam Agriculture towards 2030, with a vision towards 2050 (only Vietnamese version available)
- Strategy for Sustainable Agriculture and Rural Development in the Period 2021-2030 and Vision to 2050 and its Guideline. See the English version in Annex 3.
- The National Program on high tech development through 2030 (link in Vietnamese version) and English version is in Annex 4.
- List of high technologies prioritized for development investment and List of hi-tech products eligible for development promotion. See the English version in Annex 5.

Should there be discrepancies in the interpretation between the Vietnamese and English versions, the Vietnamese version will take precedence.

11.6. Private sector engagement

The Grant encourages private-sector partners to participate in one or multiple stages of the innovation process that ranges from ideas to commercialization. The private sector partners' roles can be varied, i.e. initiative testing, prototype production, commercial piloting, initiative scaling. Ultimately, this aims to improve the capability of Vietnamese SMEs to access, adopt, master new ideas and technologies, and scale them.

Applications will be judged against:

- The extent of private sector participation in the innovation process, i.e. the role of the private sector in bringing the innovation into practical use and the ability for SMEs to access and master the solutions.
- **The benefit generated for SMEs** by the technology applications, in terms of sustainability and magnitude.
- The possibility to have the private sector adopting and investing in the innovative solutions.

11.7. Social, economic, and environmental impact

Applicants need to prove how their ideas, activities, and processes can deliver positive economic, social and environmental (including climate change) impact to the agriculture and food sector. This includes improving productivity, efficiency, employment opportunities, income, better access to goods and services, promoting gender equality and people with disabilities, and social inclusion, etc.

If there are any potential adverse impacts, i.e. possible disruption in low-skilled labor, cyber risks, privacy issues, harms to the environment, and creation of barriers for social groups including women, people with disabilities, ethnic minorities and LGBTQI, they should be specified and outlined how they will be managed.

Applications need to clearly demonstrate how the activity contributes to or progresses DFAT's social policy priorities (listed below). Descriptions must specify the (sub) population, which stands to benefit from the innovation, and/or the expected contribution to Vietnam's social and economic development. Alignment with DFAT's ODA eligibility criteria is essential. Cross-cutting social priorities include (but are not limited to):

- Gender Equality and Women's Empowerment<u>and</u> Gender Equality Strategy 2022-2027, Australian Embassy, Vietnam
- Disability inclusive development
- Assisting indigenous people
- Adaptation and mitigation of climate challenges
- Sustainable Development Goals

Other policy requirements

- Disability inclusive development
- Assisting indigenous people
- Adaptation and mitigation of climate challenges
- Sustainable Development Goals

Other policy requirements

The Australian Government operates under strict international policies for risk management. Applicants must be aware of and comply with the following policies:

- Environmental and social safeguards
- Child protection policy
- Fraud control and anti-corruption
- Development Risk Management
- CSIRO policies

Additional resources

Additional reference materials to provide further overview of the Aus4Innovation program and its stakeholders, and Australia's interest in the region include:

- Ministry of Science and Technology
- Australia's Aid Program
- Australia's Foreign Policy White Paper
- Aus4Innovation Program

Annex 1 – Aus4Innovation Program Workstreams

A4I objective: The overall goal of A4I is to contribute to an innovation-led economy and sustainable development in Vietnam. To achieve this goal, the program will aim to strengthen Vietnam's innovation system, so the system is capable of responding to a changing context and supporting inclusive and sustainable socio-economic development.

A4I workstreams: The program is composed of four streams – (a) Innovation Policy Dialogue, (b) Network of Innovation Actors, (c) Innovation Funding and Finance, and (d) Innovation Partnerships.

- Innovation Policy Dialogue: the activities under this element are designed to enhance capacity
 within key Vietnamese Ministries, most notably MoST, to enact policy and regulatory reform
 that enables innovation. The Innovation Policy Dialogue targets system-wide capacity, as such
 activities, are not limited to the selected sectors and can focus on any aspect of the innovation
 system.
- Network of Innovation Actors: in this element, capacity gaps will be identified, and activities tailored to address those gaps. A4I will consider ways to promote diversity in the array of innovation actors included in all capacity-building initiatives, especially women and people with disabilities. The capacity-building initiatives will assist all actors to better identify innovation priorities, improve the ability of actors to collaborate in new ways and form different partnerships and improve the ability of SMEs to access, implement and master new ideas and technology. Other activities under the Network of Innovations Actors element will also contribute to the developing and supporting tools, organizations, and collaborative platforms that can connect people ideas, and resources while also encouraging increased investment both public and private in innovation. Some platforms for reference include:
 - o The Horticulture Innovation Club
 - o The Mekong Aquaculture Innovation Cluster
 - o The Central Highlands Innovation Cluster
- Innovation funding and finance: The expected activities under Innovation Funding and Finance allow testing for different types of partnership models for trialling innovation solutions that address gaps and opportunities under the thematic focus. The learnings from these grant projects are expected to inform policy discussions that affect the wider innovation sector. The lessons learned in this element will continuously inform the system-wide element of the program.

The main activity under this workstream is the continuation of the successful Innovation Partnership Grant scheme implemented during the first five years of the program, which provides targeted funds to scale already tested activities to address emerging challenges or opportunities. To improve the coherence across the program, future grants will be targeted at the specific resilient agriculture and food ecosystems, which were identified as a priority for Vietnam.

• Innovation partnership: The Innovation Partnerships will target two different, but expectedly inter-connected audiences. In Vietnam, the focus is to strengthen the relationships between

government, academia, and industry. Essentially, it is about creating a space, either physical or digital, where opportunities, challenges, and ideas can be matched with resources facilitates innovation, and builds trust and relationships amongst participants. The element will also include gender specialists and organization of persons with disabilities (OPDs) on the program Advisory Board to ensure a focus also remains on social inclusion and sustainability.

With Australia, the A4I aims at creating a sustainable mechanism whereby Australian innovation system actors can engage with Vietnamese counterparts. This mechanism presents a great opportunity for a two-way exchange of resources and information.

Annex 2 – Responsible Innovation

Applicants, particularly who are proposing AI-based solutions, are suggested to consider the following requirements, as they develop the proposal, and provide justification:

- Ethical Purpose and Societal Benefit: the innovation is consistent with the overall ethical
 purposes of beneficence and non-maleficence. Civilian innovation systems must not be
 designed to harm or deceive people and should be implemented in ways that minimize any
 negative outcomes.
- **Privacy protection**: People's private data must be protected and kept confidential plus prevent data breaches that could cause reputational, psychological, financial, professional, or other types of harm.
- Transparency & Explainability: Communication with stakeholders must be maintained. Information about the capabilities and limitations of innovation / AI systems to support stakeholders in making informed choices about those systems. People must be informed when/if an algorithm is being used that impacts them and they should be provided with information about what information the algorithm uses to make decisions, and that the decision outcomes of the AI system are explainable.
- Accountability: People and organizations responsible for the creation and implementation of
 the innovation ideas or AI algorithms should be identifiable and accountable for the impacts of
 that algorithm, even if the impacts are unintended.
- **Fairness**: The development or use of the innovation idea, Al system must not result in unfair discrimination against individuals, communities, or groups.
- Reliability & Safety: the innovation (including AI) initiatives are expected to perform reliably and safely, remediate issues, and provide related information to customers. Monitoring, feedback, and evaluation must be ensured to identify and review new uses, identify and troubleshoot issues, manage and maintain the systems, and improve them over time.
- **Inclusiveness:** Inclusive design practices can help developers understand and address potential barriers that could unintentionally exclude people. Inclusiveness mandates that innovation (including AI) should consider all human races and experiences.
- **Conflict of Interest:** the proposed innovation and practices must not conflict with the interests of the agency funding body. Any interests which conflicts, has the potential to conflict, or could reasonably be thought to conflict, must be declared and assessed.

Annex 3 – English version of No. 150/QD-TTg

PRIME MINISTER

SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom – Happiness

No. 150/QD-TTg

Hanoi, January 28, 2022

DECISION

APPOVING THE SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT STRATEGIES FOR THE PERIOD 2021 – 2030 WITH A VISION TOWARD 2050

PRIME MINISTER

Pursuant to the Law on Governmental Organization dated June 19, 2015; the Law on amendments to the Law on Governmental Organization and the Law on Local Government Organization dated November 22, 2019;

Pursuant to Conclusion No. 81-KL/TW dated July 29, 2020 of the Ministry of Politics on assurance about the national food security until 2030; Resolution No. 34/NQ-CP of the Government dated March 25, 2021 on assurance about the national food security until 2030;

Pursuant to Resolution No. 50/NQ-CP dated May 20, 2021 of the Government on Action Program on the Resolution of the 8th National Congress of the Party;

Pursuant to Resolutions of the Government: No. 75/NQ-CP dated July 14, 2021 on regular meeting of June 2021; No. 107/NQ-CP dated September 11, 2021 on regular meeting of August 2021;

Pursuant to Resolution No. 136/NQ-CP dated September 25, 2020 of the Government on sustainable development;

At the request of the Minister of Agriculture and Rural Development.

HEREBY DECIDES:

Article 1. Approval for the sustainable agriculture and rural development strategies for the period 2021 - 2030 with a vision toward 2050 (hereinafter referred to as "Strategy"), with the following primary contents:

I. VIEWPOINT



- 1. Agriculture, farmers and rural areas have strategic positions in the industrialization, modernization, national building and defense; preservation and promotion of the national cultural identity and protection of the ecological environment. Agriculture is the country's advantage and sustainable foundation. The rural areas are important economic development areas, the main space associated with natural resources, cultural and social foundation in order to ensure national security and defense. Farmers are an important workforce and human resource. The issues related to agriculture, farmers and rural areas must be solved synchronously and associated with the process of improving industrialization and modernization of the country.
- 2. Agriculture shall be developed effectively and sustainably in term of economy society -environment. The advantages and efficiency of resources (land, water, air, people, historical and cultural traditions), science and technology and innovation shall be brought into play. Agricultural production thinking shall be transferred to agricultural economic thinking, high-value and diversified products shall be produced based on the value chain in accordance with market requirements, cultural, social and environmental values shall be integrated into products. Agricultural production must be carried out responsibly, modernly, effectively and sustainably; ecological, organic, circular agriculture shall be developed, carbon emissions must be low, friendly with the environment and adaptable to climate change.
- 3. Civilized rural areas shall be developed, with modern and synchronous infrastructure and services, with urban-oriented basic life; good cultural traditions shall be preserved and promoted, security and order shall be maintained; environment and green, clean and beautiful landscapes shall be developed. A diversified rural economy shall be developed from actively creating rural livelihoods from non-agricultural activities, creating formal jobs, narrowing the income gap between rural and urban areas and reducing labor migration to big cities. New rural areas shall be developed on the basis of promoting advantages and potentials which are suitable to each region and closely associated with the process of urbanization in order to ensure the substance, go into depth, efficiency and sustainability; focus on development of new rural areas at village level in places with special difficulties, ethnic minorities and mountainous areas.
- 4. Rural residents are the central subjects and beneficiaries of rural development activities. Reform operation of farmers' organizations to ensure practicality and efficiency, to support training. Enable people to become the main force in the process of economic and social development, management of natural resources and environment; to promote internal resources and to create equal opportunities in accessing development conditions and enjoying social welfare.



The cooperative economy development is the driving force for connecting the household economy. Develop a generation of professional farmers and building a skilled and knowledgeable rural workforce in order to meet new development requirements. The community development is a basis of developing rural areas and contributing to manage effectively natural resources and environment, infrastructure; building a new lifestyle, promoting the spirit of solidarity, "turong thân, tương ái, tình làng, nghĩa xóm", self-reliance and creativity of rural people.

5. Continue to complete socialist-oriented market economy institution in the agricultural and rural fields. Increase mobilization of resources for development in agriculture and rural areas through public-private partnership; create conditions and support for economic sectors investing in agriculture and rural areas.

II. OBJECTIVES

1. General objectives

Developing a commodity production agriculture together with agricultural development based on local advantages, towards modernization with high productivity, quality, efficiency, sustainability and competitiveness among the leading groups in areas and on the world, firmly ensuring national food security, making an important contribution to socio-economic stability, preventing and controlling natural disasters and pandemics, protecting the environment, responding to climate change and effectively implementing international commitments on reducing greenhouse gas emissions. Improving income, life quality, role and position of people involved in agricultural production; creating non-agricultural careers to develop diversified livelihoods, reduce poverty sustainably for rural people and ensure equal development opportunities among regions. Ensuring comprehensive and modern development of rural areas in association with urbanization; developing rural areas with synchronous infrastructure and social services that are close to those of urban areas: preserving and promoting national cultural identity; building green, clean, beautiful rural areas; ensuring security and order. Developing agriculture and rural economy in association with building new rural areas according to the organic agriculture with high effectiveness, modern rural areas and civilized farmers.

2. Specific objectives until 2030

- Growth of GDP from agriculture, forestry and fishing is expected to reach an average of 2,5% - 3%/year, growth of labor productivity in agriculture, forestry and fishing is expected to reach an average of 5,5 - 6%/year.



- Expand and develop markets, especially export markets. Growth of the export value of agricultural, forested and aquatic products is expected to reach an average of 5 6%/year.
- Increase people's income; achieve sustainable poverty reduction. Rural residents' income is expected to be 2.5 3 times higher than in 2020. Percentage of multidimensional poverty households in rural areas is expected to decrease on average by 1-1.5%/year.
- Proportion of agricultural workers in the total social workers is expected to decrease to less than 20%, percentage of trained agricultural workers is expected to reach over 70%.
- In the whole country, at least 90% of communes will meet the new rural standards, of which 50% of the communes will meet the newly enhanced rural standards; more than 70% of these district-level units will satisfy new rural standards, of which 35% of these district-level units will be recognized to satisfy new-advanced rural standards.
- Develop environmentally friendly and green agriculture; adapt to climate change, reduce rural environmental pollution, strive to reduce greenhouse gas emissions by 10% compared to 2020. The forest cover rate is expected to remain sustainably at 42%, the forest area with a certificate of sustainable forest management is expected to reach over 1 million hectares.

Area of marine and coastal conservation zones is expected to account for 3-5% of the natural area of the national territorial waters.

3. Vision toward 2050

Vietnam is expected to become one of the leading agricultural countries of the world with a modern, efficient and environmentally friendly agricultural product processing industry. Rural areas will no longer have poor households and will become a "worth-living", civilized, green, clean and beautiful place with rural residents' living conditions and incomes comparable with those of the urban area.

III. ORIENTATION AND TASKS FOR SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

1. Completing the structure of agricultural production in association with competitive advantages and market requirements



Research, identify specifically and prioritize focus on promoting the development of agricultural products with advantages of each region and area according to 3 product groups (national flagship products, provincial flagship products and local specialties) in association with the development of concentrated and large-scale commodity production areas according to the standards and requirements of the market, provide enough raw materials for the processing industry; develop infrastructure, organize synchronous support services, uninterrupted logistics system; reform production and business according to the value chain and promote close cooperation and association between areas in each region and among regions, connect the global value chain.

- Orientation by flagship products:
- + For national flagship products: Focus on building concentrated and large-scale commodity production areas through investment support to complete infrastructure, ensure pandemic safety, uniformly apply technical standards for sustainable production (VietGAP), GlobalGAP, etc.) or apply according to specific requirements of each market; ensure the digitization of growing and farming areas, business and processing establishments; form "commodity councils" to unify management and development and ensure the balance of supply and demand; own the supply of main raw materials (seeds, fodder, fertilizers) and develop a brand or a national brand group.
- + For provincial flagship products: Formulate planning and development investment plans to balance demand and meet market requirements; promote production according to good and equivalent production processes, intensify processing to diversify products, develop products with geographical indications and clear traceability.
- + For the small-scale local specialties: focus on specialties in order to promote the local identity and advantages in association with developing new rural areas following the model "one commune, one product" (OCOP).

Complete products according to standards, technical regulations, packing, labels associated with traceability, local brands and trademarks; strengthen the application of digital technology in product management and trade to gradually promote the OCOP Vietnam brand in the domestic market and towards the export market.

- For each sector of strategic production:
- + Crop production: innovate the crop structure and implement a more flexible management regime for agricultural land use purposes in order to promote the



advantage of the strategic production industry to satisfy domestic demand and export. Prioritize the development of crops with comparative advantages and great demands (industrial crops, tropical fruit trees, high-quality rice, etc.), take appropriate steps to promote the development of potential plants such as medicinal plants, ornamental plants, edible mushrooms, etc. Take advantage of available conditions to reasonably develop less advantageous plants for processing and domestic consumption (maize, cotton, tobacco, subtropical fruits and vegetables, soybean).

For rice production: Continue to take advantage of Vietnam's rice industry but with innovations in thinking, policies on management and use of land for paddy cultivation and rice production - focusing on development from quality and quantity, while ensuring national food security in all situations while making the best use of land and water resources in the most efficient manner. Strictly manage the area of land exclusively used for rice cultivation to form concentrated and large-scale commodity production areas with appropriate, synchronous, effective and sustainable investment mechanisms and policies, especially in advantageous areas such as the Mekong River Delta and the Red River Delta.

At the same time, implement policies on management and use of available paddy land in a more flexible way to respond promptly to market changes, maintain multicropping areas to be able to return to rice production in a convenient way if necessary and combine the plant rotation and interplanting of rice and other agricultural plants, aquaculture to increase income for farmers and improve the farming system.

+ Animal husbandry: Satisfy demands for essential food of the domestic market; develop commodities that have potential and high demand such as poultry, eggs, and dairy; maintain pig and cattle breeding. Develop breeding of cattle, poultry, natives, high-value specialties, ensure food safety, environmental sustainability, biosecurity and epidemiological safety. Develop intensive animal farming applying high technology in farms and large enterprises while encouraging traditional household farming with improvement towards professionalization and organic animal farming. Develop concentrated livestock areas that are far from densely populated areas and where environmental treatment and pandemic prevention are convenient. Identify orientations, solutions and roadmaps for mastering the technology for production of breeds, feed, veterinary medicines, processing, etc., for important industries such as pigs, poultry, dairy cows, improve competitiveness, satisfy domestic demands, gradually replace the production models with low value added and with depending on inputs and outputs. Effectively manage and use livestock waste, promote circular economic models in animal husbandry.



- + Aquaculture: Develop the aquatic industry into a strategic production industry, satisfy domestic demands and export, in which:
- . Develop the aquatic industry towards industrial-focused farming with largescale production establishes applying modern technology and small-scale households applying improved technology, organic farming, cooperate with cage farming, concentrated ponds and plant rotation / interplantping, etc. Develop primary specialized farming areas for strategic products such as shrimp and pangasius. Apply technology towards recycling wastewater from aquaculture and seafood processing, reduce pressure on the environment. Complete irrigation system for aquaculture in specialized farming areas. Form effective association between large production enterprises and small production farmers through cooperative economic development in order to support the producers' legitimate interests. Be proactive in the supply of essential inputs (breeds, feed and medicines) and seafood processing. Strengthen inshore aquaculture development combined with planting and protecting mangrove forests. Promote mariculture to become a large-scale, modern, efficient and sustainable commodity production industry associated with marine economic development, ecological environment protection, security and defense.
- . Develop effectively and sustainably offshore fisheries on the basis of gradually reducing fishing strength, balancing aquatic resource reserves, replacing livelihoods of the fishing community into aquaculture development, seafood processing, tourism services, etc. Reorganize inshore fisheries and reasonable inland fisheries. Strengthen the protection, regeneration and development of aquatic resources associated with biodiversity conservation. Continue to apply science and technology and develop cooperative economy to attract enterprise investment for modernizing the management of aquatic resources and fishing fleet and completing investment in fishery infrastructure services in fishery areas and islands.
- + Forestry: Build the forestry industry to truly become a modern and highly effective economic and technical sector, raise people's incomes, contribute effectively to socio-economic development, ecological environment protection, water security, natural disaster mitigation, effective response to climate change, maintain defense and security, in which: focus on close management, protection and sustainable use of existing natural forests; promote natural regeneration, improve the quality of special-use forests and protection forests, especially environmentally sensitive areas; develop ecotourism and economy under forest canopy to contribute to natural disaster and climate change prevention and control. Improve the business quality and efficiency for production forests; form a number of concentrated specialized farming areas meeting sustainable standards to satisfy basically raw materials for wood processing and handicraft



production. Promote the development of non-wood forest products, medicinal plants under forest canopies, forest environmental services (including exchange and trade in carbon credits from forests), ecotourism, scientific research, agroforestry. Authorize organizations, communities, individuals and households to manage and use forests and forest land to maximize social resources in the management, protection, development and sustainable use of forests and land areas planned for forestry and improvement people's livelihoods.

- 2. Organizing important stages in production to improve efficiency and ensure sustainable development
- Complete research, selection, transfer and application of plant, animal and aquatic varieties with high productivity, quality and tolerance; conserve and develop indigenous varieties. Develop a system of producing and trading varieties to meet the requirements of quantity and quality for mass production. Encourage all economic sectors to invest in variety production towards modern industry; promote public-private partnership in the supply of quality and disease-free varieties. Promote international cooperation, import good varieties suitable for Vietnam's conditions; strengthen the management of varieties in order to quickly increase the use of variety in conformity with technical standards for production.
- Innovate methods for management, use and trading of agricultural materials towards professional and responsible agricultural production; increase the use of organic fertilizers, microbial fertilizers, biological plant protection drugs, etc. Develop programs for integrated plant health management (IPHM) and use of beneficial organisms for key plants to protect production, control soil degradation, and protect soil "health", human and animal health and ecological environment. Increase the use of domestic agricultural products and processing by-products to produce animal feed, aquatic products, organic fertilizers, etc., in order to reduce dependence on imports. Research and master the processes for producing drugs, chemicals and vaccines used in agriculture to proactively and promptly supply and respond to pandemics. Form agricultural material production and business associations to cooperate with State authorities in operating, inspecting and supervising the production, circulation and use of agricultural products in a transparent and efficient manner.
- Improve the level of synchronous mechanization, automation from production to harvesting, preservation and processing based on the value chain, first of all for flagship products. Encourage the private sectors to invest in the development of the agricultural machine production industry and agricultural product processing and preservation technology; specially prioritize advanced technologies, environmentally friendly technologies and technologies suitable



for the characteristics of each industry. The State shall cooperate with economic sectors in training officials and technical workers to use, repair and maintain agricultural machineries. Assist farmers in investing and applying advanced mechanized equipments, greenhouses, net houses, modern livestock barns in association with advanced and high-tech production processes. Develop agricultural mechanization service business.

- Focus on building specialized production areas to ensure sustainable standards and meet each market category. Form some industrial zones and clusters and services serving agricultural production (warehouses, yards, processing plants, hatcheries, etc.) to associate production zones with processing and trading zones. Build high-industrial agricultural zones. Build inspection and warning systems to ensure safety in production. Connect traffic with logistics between regions with the main market or border checkpoints.
- Develop industry of the production of products, raw materials, machineries and equipments serving production, processing and consumption to ensure prompt supply, quality and reduction of agricultural production costs. Prioritize the development of the processing industry, increase the proportion of deep processing to reduce costs and increase the value of agricultural products. Invest in improving processing capacity, preservation and logistics services for main specialized farming areas, focus on national strategic agricultural products. Form concentrated material areas to supply enough raw materials to ensure quality standards for processing facilities. Attract leading enterprises with enough capital, science and technology and market capacity to effectively lead value chains in order to develop clusters of production, processing and consumption in localities and regions having large agricultural production, convenient transportation, labor and logistics to create conditions for the growth of these localities.
- 3. Promoting cooperation and association to develop value chains and advanced agricultural models
- Rapidly convert from developing "agricultural product supply chains" to developing "commodity value chains". Prioritize completion of value chains for national flagship products industries to support building of value chains for local flagship products industries. Based on large-scale specialized areas of agricultural flagship products, develop cooperatives, gradually reduce intermediaries, strengthen connection with large processing or trading enterprises to form value chains; use the value chains of agricultural products to connect with small specialized farming areas to form a common economic space among areas with similar conditions and "crossing" of administrative boundaries. Associate contributing factors in the chain in a manner of



transparency, responsibility and benefit sharing according to the value contribution levels.

- Promote experiment and propagation of new agricultural production models to be models for specialized farming areas and meet market requirements such as: ecological agriculture, green agriculture, saving of resources and reduction of waste; organic agriculture, circular agriculture, smart agriculture, high-tech agriculture, agro-industry (agricultural product processing, recycling of waste and by-products, renewable energy production, etc.), agro-service (experience tourism, environmental protection services, training services and technology transfer provision, agribusiness services, etc.). Effectively evaluate these models to draw experience, scale up, and introduce new technologies and management.
- 4. Developing rural economy to create jobs and increase incomes for rural populations

Along with agricultural development, focus on developing rural economic, transforming the labor structure towards non-agriculture to solve jobs and ensure incomes:

- Invest in the development of industrial zones, industrial clusters and services in rural areas with policies to attract investment to encourage industrial and service enterprises to invest in rural areas, especially labor-intensive industries and to gradually reduce migration of workers from rural to urban areas by encouraging people to find work in their hometowns. Accelerate the process of urbanization in regional centers to reduce migration to two main cities, Hanoi and Ho Chi Minh City.
- Formalize "unofficial labor" originated from agriculture; develop policies to actively register and manage workforces combined with the digitization of residential identification. Support the formation of official economic organizations (cooperatives, enterprises, registered households, organizations of farmers' association, etc.) in order that workers have official labor contracts. Develop organizations of farmers and workers (performing farmers' association activities, organizing trade unions, labor unions that are suitable for professions and fields) to protect basic rights and effectively support workers in skills training associated with the needs of the market, in equipment of degrees, loans, social insurance support and in access to the official labor market.
- Strongly develop service economy in rural areas, diversify types, scale, etc. to create jobs and attract workforces that are not involved in agricultural production. Develop specific plans to form a service economy in rural areas (identifying the needs of service industries; organizing a system of specialized



enterprises and cooperatives; attracting investment, developing the market; forming public services for training and information, etc.).

- Improve efficiency and income from agricultural production, gradually form a team of professional farmers, create conditions for farmers to develop the economy, farms and economic cooperation. Encourage and have support policies for farmers in specialized farming areas to participate in certified training programs to produce products that meet quality standards and new market requirements (landscape agriculture, responsible agriculture, organic agriculture, high-tech agriculture, etc.) and have supportive policies such as preferential credit, insurance support, connective support, consumption of agricultural products, etc. Through cooperatives and farmers' associations to develop programs and organize free training classes to improve professional qualifications in occupational safety, environmental protection, use of mechanized machinery, proper use of fertilizers and chemical drugs, use of information technology under their management, ...
- 5. Developing civilized and modern rural areas associated with urbanization, preserving traditional culture
- Upgrade and modernize rural infrastructure to ensure rural-urban connectivity. Focus on building, perfecting and maintaining essential infrastructure for rural socio-economic development, prioritize investment in the transport systems, irrigation, information technology infrastructure, trade, health, education, culture and sports; encourage investment in the concentrated clean water supply works in the form of socialization. Maximize private investment and investment in a form of public-private partnership associated with improving efficiency of management and use of public investment capital.
- Innovate the operation contents, improve the efficiency of the New Rural Development Program in accordance with the development level, culture and specific conditions of each region to ensure the substance, to go into depth, effectiveness, sustenance and to avoid unfocused investment and wastefulness. Concentrate investment resources, invest in communes and districts that have not yet met the new rural standards, especially in safe zone communes, communes that meet less than 15 criteria; support communes that have met new rural standards to continue maintaining, perfecting and improving the quality of the criteria to ensure sustainability. Encourage to build enhanced new rural areas and model new rural areas in order to create a green, clean, beautiful, safe rural environment and landscape with richness of traditional cultural identities; to improve rural political system; to maintain national defense and security and order and to make the rural areas "worth living places". Build a smart new rural area applying information technology and digital technology to fundamentally



change management, administration and supervision of government agencies; production and business of enterprises, cooperatives and craft villages in order to narrow the gap between basis social services and modern social services.

- Diversify the program of building new rural areas in accordance with the advantages of regions, circumstances and local development opportunities in 3 directions:
- + Communes in peri-urban areas with the majority of non-agricultural economy and strongly developed services, trading and infrastructure will tend to urbanization. Develop urban agriculture, gradually improve infrastructure, develop social services with qualities close to those of urban areas, form "green cities", "ecological urban areas". Develop satellite urban areas to reduce the load on the main urban areas and gradually bring the developmental urban areas to rural areas.
- + Communes in large commodity agricultural production areas such as those in the Mekong River Delta and the Central Highlands will build specialized farming areas that meet technical standards, have infrastructure and processing and service industry clusters serving production and business. Support connecting infrastructure with major markets, transit zones, and large logistics services, domestic and international markets. Develop rural residential areas dispersed according to production areas and harmoniously connected to urban areas to ensure the provision of socio-economic services.
- + Traditional rural communes such as those in the Northern mountainous region, some regions in the Red River Delta and other regions will continue to develop local specialties and craft villages; to develop rural tourism and service economy on the basis of maintenance and promotion of their local culture. Develop essential infrastructure, especially for disadvantaged areas and ethnic minority areas. Develop concentrated residential areas with scales suitable for connection with urban areas of localities and regions.
- 6. Inclusive development, assurance of equity of social welfare in rural areas
- Take rural residents as the central subject of development to ensure equal access to development resources (capital, land, water, energy, science and technology, etc.), basic services, social welfare (nutrition, health, education, sports, culture, information, transportation, etc.), and opportunities (study, work, market, etc.). Develop equal social welfare policies (house and settlement, health insurance, retirement regime, etc.) for these rural residents; aim for gender equality. Actively prevent and control risks, ensure the residential areas and life of these rural residents to be safe and secure against natural disasters, enemy sabotage, epidemics and adverse fluctuations.



- Implement effectively sustainable poverty reduction policies, diversify resources and methods for reducing poverty, complete hunger eradication and aim for poverty eradication. For the poor in advantage areas, create conditions to provide resources and create livelihoods so that they can confidently and proactively rise up to improve their lives. For poor localities, extremely difficult areas and ethnic minority areas, prioritize supporting and expanding social security coverage to all vulnerable and disadvantaged groups.
- 7. Developing a strong community to act as the key for rural development and agriculture production
- Strengthen good cultural traditions and diverse community relations in rural areas (villages, family lines, associations...) to actively promote internal strength and spirit of autonomy, pride, solidarity and creativity in life activities, economic development, rural tourism development to increase the efficiency of social management and natural resources. Support and promote the role of the community and people in preserving and developing the good traditional culture of the locality, fighting to push back against inappropriate unsound customs and foreign culture and practically promoting the movements "Toàn dân đoàn kết xây dựng đời sống văn hóa ở khu dân cư gắn với xây dựng nông thôn mới và đô thị văn minh" ("All people unite to build cultural life in residential areas associated with development of new rural areas and civilized urban areas"), "Toàn dân bảo vệ an ninh Tổ quốc" ("All people protect the country.")
- Continue to promote and improve the quality and efficiency of the formulation and implementation of the Democratic Regulation at facilities; promote the role of community organizations, conventions, treaties, encourage community involvement in order to create motivation to stimulate people's strength and resources in the process of developing production, building new rural areas, managing and protecting forests and natural resources and maintaining security and order at the facilities. Have policies and prioritized resources to facilitate the training of officials formally serving community development and rural development at all levels (especially at the facility level) with appropriate programs and forms.
- 8. Protecting the ecological environment and landscapes in order to adapt to climate change
- Develop rural landscapes associated with smart eco-villages, promote advantages of each locality, and ensure green, clean, beautiful, friendly and natural harmonious landscapes. Plan reasonably spaces in order that production industries that have great impacts on the environment such as livestock, aquaculture and fishing, agricultural product processing, slaughter, waste treatment, etc. will go away from urban areas, densely populated areas, resorts,



etc. Focus on replanting protected and special-use forests, develop nature reserves and reservoirs to closely protect ecologically and environmentally sensitive areas.

- Gradually reduce the pressure of socio-economic development on the environment with solutions such as: terminate the abuse of chemicals and synthetic materials that are difficult to decompose; facilitate the regeneration of basic resources such as land, water and energy (renewable energy production, rainwater accumulation, waste treatment at households and production facilities, etc.); promote deep processing, take advantage of agricultural by-products to proactively handle pollution at the source. Regularly survey and evaluate marine biological resource reserves to regulate fishing capacity; identify solutions to regulate saltwater intrusion at estuaries according to the principle "No regrets" to maintain the ecological balance of rivers and seas, ensure the ability to regenerate biodiversity and maintain the capacity to clean up natural pollution.
- Proactively adapt to climate change by applying adaptive farming measures (developing aquaculture in areas of rising sea levels, saltwater intrusion; switching to plant crops and shallow crops in places where rainfall is reduced, etc.); widely apply environmentally friendly technical measures (minimally tilling the soil, smartly putting down fertilizer and spraying chemicals, saving water in irrigation, saving water in animal husbandry, using plant varieties and livestock that are resistant, etc.). Increase the use of microbiological or organic materials, apply smart techniques and circular economy to save inputs, develop the potential of renewable energy production combined with agriculture to reduce fossil fuels and carbon emissions. Strengthen reforestation, develop onshore perennials with large biomass and grow seaweed at sea to absorb carbon.

IV. MAIN MEASURES

1. Carry out dissemination and education to innovate thinking and unify perception and actions

Continue to propagate and raise awareness of the Communist Party and State's guidelines on the role of agriculture, farmers and rural areas in the new development period, on agricultural restructuring and new rural development towards ecological agriculture, modern rural areas and civilized farmers. Develop a dissemination program and unify awareness and actions of each group with the following main contents:

- Develop sustainable agriculture: Ensuring development opportunities for future generations, adaptability and resilience to changes, balancing and



harmonizing environmental, social and economic factors, renewing raw materials and energy, etc. in production.

- Develop agriculture towards organic and ecological agriculture: Applying environmentally friendly production processes, protecting landscapes; using rationally and economically input materials and resources, without adverse effects on the environment and human health; respecting and applying natural laws to develop natural and diversely agriculture.
- Shift from production to agricultural economy development. Shift from agricultural production to the multi-sector integrated production of service and industry; from single-valued agricultural products to multi-valued integrated products; from supporting producers to supporting all contributing factors in the value chain.
- High-tech agriculture: develop and apply scientific and technical progress to improve productivity, value, quality, adaptation, production effect, loss reduction, etc. Develop smart, accurate and digital-technology applied agriculture, etc.
- Develop responsible agriculture: Meeting consumers' needs on food hygiene and safety, ecological environment and social justice and adapt to climate change, etc.; protect the legitimate rights of producers and traders and ensure fairness for small producers and disadvantaged entities. Develop both the domestic market and export market.
- Promote inclusive development thinking: connecting agriculture with industry and services, connecting areas through the development of "Clusters of industries", connecting domestic value chains and global value chains; rural economy and urban economy, farmer households and domestic and foreign enterprises, etc.
- Organize dissemination, education, build demonstration models, form consulting forces, develop textbooks to gradually transform thinking from central to local, all contributing factors in the industry. Assign research agencies, industrial media agencies, universities, colleges, vocational schools and relative central and local agencies development and deployment of plans on dissemination and campaign.
- 2. Innovate production and business organizations, complete production relationship
- Formulate policies to support efficient production farmers in accessing markets, capital sources, to purchase machinery, accumulating land, applying



technology for development towards professionalization, increase of production scale and participation in cooperatives, connection with businesses in value chains. Switch from farmer household business to industrial or non-agricultural service business. Develop programs to support farmers in starting a business and starting a farming business, etc.

- Continually innovate and develop cooperatives to become an important economic factor in production and consumption, connect components in the value chain, especially enterprises. Formulate and implement breakthrough policies to develop "large-scale farmer households" such as land allocation, support for developing infrastructure, training, borrowing investment capital, etc.; support cooperatives in both buying and distributing inputs, connect with enterprises consuming output agricultural products and provide production services including credit. Encourage and support cooperatives in developing into enterprises; cooperatives actively build agricultural commodity value chains, etc. Build a union of cooperatives which have a same product category or join a same value chain in order to increase scale and improve efficiency.
- Form a system of enterprises investing in agriculture and rural areas that play pivotal role (supplying input, processing and trading) in association with farmers in order to lead the value chain and develop the market. Develop a commodity ecosystem that connects large enterprises with small enterprises. Build and develop entrepreneurship incubation centers.
- Promote roles of associations in researching, expanding market and supporting authorities in negotiating and opening markets for agricultural exports. Research and build commodity coordination boards with the participation of representatives of contributing factors such as production households, cooperatives, enterprises, the state, etc. Complete rearrangement of state-owned enterprises and agriculture and forestry companies.
- 3. Improve the quality of vocational training; qualifications, efficiency of research, application and transfer of science, technology and innovation
- Reform organization and improve the quality of vocational training for farmers and young rural workers who want to start a business with agricultural skills and new skills to meet requirements of the Industrial Revolution 4.0 and digital transformation and economy towards "intellectualizing farmers"; strongly bring into play the creative potential of rural people; strongly shift to training according to needs of enterprises and the market to promote labor restructuring associated with job creation, trends and needs of rural economic restructuring of each region.



- Increase public investment in research, application and transfer of science and technology in agriculture, strive to reach 5% of total investment in agriculture. Prioritize synchronous investment in technical infrastructure serving scientific research, technology application and human resource development. Invest in some basic research institutes and schools to become research and training units on a par with those of other countries in the region. Have appropriate mechanisms and policies to socialize and encourage enterprises and mobilize all legal resources to invest in science and technology in agriculture; form some venture capital funds for small and medium enterprises, technology application funds for farmers and farms.
- Promote focused scientific research in association with the transfer and application of new and advanced technologies and digital transformation, consider this as one of the driving forces and solutions that determine the success of the agricultural restructuring. Concentrate resources to effectively execute some major research programs, including: Program on research and production of varieties serving agricultural restructuring for the period of 2021 -2030, Program on development of agricultural flagship products, project on development of the agricultural bio-industry up to 2030. Prioritize research and development of production systems that efficiently and economically use natural resources, are environmentally friendly, adapt to climate change and reduce greenhouse gas emissions; develop intensive processing technology, preservation technology, reduction of loss and wastage in food systems. Accelerate the application of high technology and the fruits of the 4th Industrial Revolution including biotechnology, digital technology and information technology in all stages of the value chain, synchronously connect with industries, other fields to form smart agricultural production, precision agriculture; effectively use resources, labors, enhance added value, competitiveness and sustainable development of the industry.
- Improve legal environment for activities of the agricultural science and technology market specified in intellectual property right assurance towards accelerating the enforcement of the law on intellectual property to ensure conformity with production and harmony with international regulations. Develop intermediary organizations connecting technology (technology exchange, trading centers, innovation promotion and support centers, intellectual property valuation centers, technology incubation center, etc.) to provide service of information, consultant, and technology agency for new enterprises, farms, cooperatives. Have suitable mechanisms and policies to encourage organizations and individuals participating in investment and private-public partnership in research, transfer, application of high technology to research, transfer technology and science, traceability and food safety control.



Connect research institutes with universities; build some specialized research institutes (branches) in concentrated production areas.

Innovate public scientific research organizations towards improving autonomy; promote mechanisms of ordering and bidding for science and technology tasks in order to widely encourage many stakeholders to participate in research, transfer and application of science and technology (state - research institutions - enterprises –transfer organizations and farmers) in order to closely associate with practical requirements, ensure public, transparent and efficient investment. The State has encouraged and supportive policies for enterprises participating in technology and science research and for famers joining in innovation. Improve mechanisms for managing state funding for scientific researches, including product all-inclusive contracting mechanisms. Improve the quality of human resources in science and technology, adopt policies on appreciating and developing the scientific research force to avoid brain drain in public service providers and to foster the force of specialized experts.

- Strongly innovate agricultural extension, ensure a neat, compact and efficient apparatus suitable for each type of production and areas; strengthen the coordination between state agricultural extension and enterprise agricultural extension; develop electronic agricultural extension, community agricultural extension; decentralize agricultural extension to farmer organizations, cooperatives and enterprises. Strongly cooperate in training, researching and agricultural extension.
- Focus on improving a system of technical regulations and national standards serving control over agricultural material quality, food safety, specialized construction investment; harmonize regional and international standards to promote the expansion of agricultural product export markets.
- 4. Develop domestic and foreign markets in order to ensure sustainable outputs for agricultural products.
- For the domestic market: Innovating domestic agricultural product distribution systems; connecting systems of modern and traditional retailing, distribution, processing with agricultural product supply chains associated with specialized farming areas to bring agricultural products into domestic markets, supermarkets and shopping malls. Form a system of wholesale markets associated with logistic chains in key agricultural production areas. Modernize market systems in accordance with specific customs and conditions of each administrative division, well carry out the traceability of origins and quality of goods and ensure food safety. Support investment in developing infrastructure, equipment system and operating funds so that farmer organizations and cooperatives can actively build retail business systems in the main domestic



markets. Promote consumption of domestic products, adopt policies to support production and business units in developing e-commerce, and develop distribution channels to connect between production areas and the final consumer market.

- For the import-export market: Actively promote opportunities to sign Free Trade Agreements to stabilize traditional markets, expand new markets and avoid dependence on a few markets. Discourage unregistered small scale business, promote registered business; develop freight transportation chains directly connected by railway and seaway. Functional agencies actively cooperate with enterprise associations in resolving and removing technical barriers and international legal disputes. Decentralize and empower commodity associations and enterprise associations to actively participate and ensure the effectiveness of trade promotion activities. Develop a mechanism for providing effectively and promptly information so that businesses and producers can proactively adapt to changes in policies and international trade commitments. Strongly control agricultural product import, ensure food safety, biological safety and practicable protect domestic production.
- Develop an agricultural product market information system meeting requirements of large-scale and modern commodity agriculture with intensive international integration. Improve capacities to forecast, assess and warn about market information of agricultural flagship products, promptly provide information so that authorities, enterprises and people can proactively adjust production in accordance with market requirements, minimize good oversupply, congestion of goods and disruption of the supply chain. Apply digital technology to control strongly supply in main agricultural production areas, assess demands of the domestic and foreign markets, and supervise circulation and preservation of goods in main trade border gates. Support market access capacity for small businesses, cooperatives and farmer households (developing maps, establishing planting area codes, packing facility code, protecting intellectual property, branch protection, etc.).

5. Develop and complete infrastructure

- Develop multi-purpose irrigation with priority given to irrigation works serving aquaculture, upland crops, and high-tech production areas in association with field development. Continually develop, repair and upgrade natural disaster and climate change prevention and control systems (controlling and preventing flood, drought, erosion, salinity, etc.); ensure water security and dam safety. Apply effective water control and use technology for water-saving irrigation, groundwater exploitation control, transfer and storage in areas lacking domestic water, reuse of water for aquaculture, storage and supply of



water for fighting forest fire. Store water in rainy seasons and move them to areas lacking freshwater in dry seasons at the seasides and mountainous regions.

- Develop fishing port systems, upgrade anchorages for ships and boats to avoid storms and upgrade fisheries service infrastructure combined with infrastructure serving seafood processing. Upgrade contact information systems to warn people and ships/ boats in the sea about disasters. Invest in infrastructure for onshore and offshore aquaculture zones, national and regional concentrated aquatic breeding establishments; aquaculture testing and inspection.
- Invest in develop and improvement forestry infrastructure for forest protection and development; protect and conserve biodiversity, environment and form the basis of attracting and supporting all economic sectors to participate in forest development; give priority to the development of watershed and coastal protection forests in order to prevent, control and mitigate negative impacts of natural disasters and respond to climate change. Develop a system of forestry roads linking large-scale and concentrated raw material areas with processing factories; reduce transportation costs, increase the value of wood products.
- Invest in infrastructure and equipment to ensure warning, forecasting and disaster resilience. Upgrade equipment and technology to monitor, analyze, forecast and warn natural disasters, apply advanced forecasting technology, prioritize quantitative rain forecasting technology, warn flash floods and landslides. Invest in reinforcing and upgrading natural disaster prevention works, especially systems of dikes, sluices, dams to prevent floods, saltwater intrusion and high tides. Develop and strengthen a system of riverbank and coastal erosion prevention and control works in high-risk areas, combine with the application of information technology in natural disaster management and response to serve production and other economic activities. Upgrade and complete essential infrastructure (electricity, roads, schools, stations, and telecommunications) for disadvantaged areas. Prioritize development of roads and electricity for concentrated production areas.
- Prioritize investment in interior field traffic infrastructure, traffic infrastructure connecting large-scale concentrated production areas with provincial roads or national highways that connect development spaces among regions, areas and administrative divisions to promote connection of value chains. Develop infrastructure for cold chains, transport of fresh agricultural products, preservation and post-harvest processing, especially storage, preservation, cold storage and food storage.

Invest in infrastructure, equipment and laboratories serving veterinary and plant quarantine to ensure food safety. Develop service and industry zones/clusters serving agriculture in association with specialization farming areas and centers



for collecting agricultural products in agricultural product supply center production areas that connect domestic market and international market, form a system of multi-functional wholesale markets, agricultural flagship products exchanges, build cross-border logistics centers. Develop environmental protection infrastructure (treating and recycling of wastewater, garbage, reusing waste, by-products, etc.).

- Gradually build a digital infrastructure system for agricultural production and business, create conditions for rural modernization. Develop a technology platform to develop electronic information systems in education, healthcare, culture, tourism and e-commerce sectors.
- 6. Carry out innovations and improve the capacity and effectiveness of state management
- Execute the State administrative reform master program for the period of 2021
- 2030. Reform and perfect the system of industry management apparatus. Reform institution, administrative procedures, management authorities that focus on formulating policies, strategies, laws, promulgating technical regulations and standards, solving problems on market development, production protection and climate change; limit interference by administrative measures in production and business decisions that belong to capacities and responsibilities of people and enterprises.
- Concentrate human and resources on key management tasks, create new values for the industry and strengthen decentralization for administrative divisions. Reduce procedures, clarify information and process work associated with specific responsibilities of each individual and organization. Renew recruitment, training, use and appointment of officials and public employees to ensure professional capacity quality, ethics and responsibility. Develop a team of agricultural leading experts and scientists, form a mechanism of official and regular policy dialogue and consultation between experts, representatives of farmers and enterprises and industry management agencies.
- Renew systems of organization and management of public service providers towards thoroughly granting them autonomy, self-responsibility and investment rights according to contribution efficiency. Promote socialization and decentralization for farmer organizations, cooperative economy and private sectors to participate in providing public services (agriculture extension, scientific research, market information, etc. associated with cooperative economy, commodity councils, enterprise associations, etc.). Encourage economic sectors in developing consultation systems and technical services to serve customers in convenient production areas. Muster officials and state funding serving production protection services (veterinary, plant protection,



fisheries resources protection, rangers, disaster prevention, etc.) to prevent and control epidemics and manage risks Simultaneously cooperate quarantine, forecasting, warning, direction of intervention and advice on border gate prevention and control, cargo control, market control, domestic quarantine, production inspection and epidemic information, etc.

- Renew and enhance roles of the Farmers' Union and the Cooperative Alliance to truly become representatives to protect rights and serve farmers and cooperative members. Enhance the position and roles of the Fatherland Front and socio-political organizations; professional associations, bring social organizations in rural areas to participate in the process of socio-economic development, environment and institutions in agriculture and rural areas. Build a modern, democratic, fair and civilized community in rural areas, encourage community involvement so that people may really play the central and pivotal role of development process.
- 7. Promote digital transformation in rural agriculture sectors
- Develop and aim to be unify tools for digital transformation in the rural agriculture, digitization, data creation, standardization of databases of agricultural land, crops, livestock, fisheries, irrigation, natural disaster and epidemic prevention and control; connect and share national databases, industry/sector databases serving the direction and administration of state agencies and production and business of people and enterprises.
- Develop smart agricultural models applying digital technology in rural agriculture. Develop agricultural product supply chain management applying blockchain, manage agricultural products from production, harvesting, preliminary processing, and preservation, transportation, processing to consumption of them to create information transparency and ensure product origin traceability. Build and replicate models of smart villages and natural farming villages applying digital technology.

Have programmes of assisting enterprises and cooperatives in agricultural digital transformation. Increase investment and application of information technology to build e-government. Develop e-agricultural extension and e-commerce. Apply information technology and high technology to information collection and management, data analysis and warning of epidemics and natural disasters; management of raw material areas.

- Develop an overall plan for the development of database management systems and identity systems associated with managed subjects; data standardization, agricultural and rural database update on the basis of a synchronous big data, connect and perfect the production infrastructure system. Gradually build a



digital database system of agricultural production and business (land management, digitization of planting areas, crops, livestock, forests, fisheries, irrigation, market, epidemic and natural disaster prevention, etc.). Build a system for digitizing the national database on agriculture and interconnect it with the national database system on population, economy, production infrastructure, technology, environment and hydrometeorology, etc. as a basis for analysis, development of strategies, planning and investment plans for smart and accurate agricultural transformation.

- 8. Proactively adapt to climate change, manage risks
- Proactively respond to climate change to adapt and develop agricultural production and business towards "natural farming". Apply measures to reduce greenhouse gas emissions through the efficient management and use of input resources; handle and reuse agricultural by-products and wastes; sustainably manage and use existing forest area, promote new reforestation (especially large timber forests) and natural regeneration to increase forest coverage and ability to absorb and store carbon; develop diverse ecological agriculture adapted to climate change; encourage the application of modern technologies, plant and livestock varieties with high resistance, establish close monitoring mechanisms to promote green agriculture development and low carbon emissions. Strengthen research and transfer of livestock and plant varieties adapting to climate change. Have mechanisms for supporting and encouraging water-saving solutions.
- Build a system of warning, forecasting and determining risks as the basis of synchronous solutions, proactively protect water production against risks of epidemics, natural disasters, environmental pollution, etc. Improve recovery capacity of production system, ensure harmony development principles of socio-economic-environmental interests. Have plans for carrying out researches and focusing on determining solutions to respond and repair undetermined risks according to scenarios for serious risks to agricultural production and development such as major diseases causing large-scale damage (avian influenza, African swine fever, etc.), dangerous phenomena (river landslides, ground subsidence, saline intrusion, etc.), adverse tendencies (population aging, spontaneous migration, etc.), etc. in a national and local scale, ensure sustainable development and ensure that agriculture is always the national sustainable foundation.
- 9. Integrate and cooperate with international countries
- Enhance the capacity and efficiency of agricultural and rural international economic intergration, improve cooperation with nations and international organizations in attracting assistance, developing markets and accessing science



and technology for the industry's development goals. Improve the efficiency of mobilizing and using official development assistance (ODA), grants from domestic and foreign organizations and individuals for sustainable development; selectively attract foreign direct investment.

- Disseminate and implement signed bilateral and multilateral international treaties and agreements relative to agriculture and rural areas; support and supervise the effective implementation of these international treaties and agreements, especially those of the ASEAN Community and FTAs.
- Implement programs and plans to develop export markets, actively participate in global agricultural supply chains and harmonize domestic and international regulations. Build a trade defense system and an early warning system to effectively exploit benefits and minimize negative impacts from international economic integration.
- 10. Formulate, complete and deploy some breakthrough mechanisms and policies
- Land policies

Complete land policies based on market of rights to use land as property according to the principles of favorable operation, low transaction costs, create advantage conditions for farmers to expand production scale and flexibly use agricultural land to create high income; create advantage conditions for people to easily transfer, lease, and contribute capital and mortgage in a unified transaction market. Assist efficient production farmers in accumulating agricultural land for farming. Assist cooperatives and cooperatives' unions in buying, renting or receiving capital accumulated from agricultural land of farmer households; withdraw labors from agricultural areas to create a land funds.

Include more properties on land that can be recorded in the land use right certificate (such as greenhouses, net houses, etc.). Add "đất phục vụ mục đích hỗ trợ sản xuất nông nghiệp" ("land for agricultural production support") in the category of agricultural land for production support. For the above land area, it is allowed to build infrastructure serving agricultural pre-production and post-production activities (such as agricultural equipment workshops, logistics, processing, storage and preservation of agricultural products) on the agricultural land. Gradually expand scope of entities eligible for possessing rights to agricultural land use right transfer to organizations and individuals that have adequate capital and technology potential and actually invest in agricultural production according to the planning. Publicize clearly information about planning concentrated agricultural flagship products production areas for



develop and deployment of land planning; review the structure of 3 types of forests (production forests, protection forests, special-use forests) in accordance with actual conditions. Study reform of the operation of the Land Fund Development Center as a foundation to build a "Land Bank" to support the use right transfer and promote property rights to agricultural land.

- Finance and credit policies

Develop markets of finance, microcredit and new financial service products, consolidate and expand the people's credit fund system to ensure safety and efficiency. Research and assign credit tasks serving agricultural production and rural life to Farmers' Associations and Cooperative Unions, thereby providing credit support for production and business development of farmer households; deploy financial products and services to isolated, remote and disadvantaged areas. Diversify credit products for agricultural and rural production, especially for agricultural production with large-scale, application of high technology, according to value chain, circular, organic, biological agriculture, etc.

Extend types of loan collateral, adjust the market-based pricing mechanism for properties formed on land for agricultural production (farms, greenhouses, irrigation systems, etc.) and intangible properties (intellectual and trademark property, etc.) to secure bank loan. Implement a lending mechanism according to agricultural value chains associated with production credit, investment loan, insurance and other financial services; have an priority investment fund for hitech agricultural enterprises, enterprises of preservation and processing, logistics services, commercial infrastructure, startups and small agricultural enterprises. Widely apply and diversify agricultural insurance products to create advantage conditions so that people and enterprises may cope natural disaster and epidemic with risks.

- Investment policies

Increase public investment in agriculture, adjust structure to increase rates of investment in science and technology, trade infrastructure and human resource training, ensure regional connection and sustainable agricultural production and adapt to climate changes. Adjust strategies for investing in industry and service for agricultural and rural development in advantageous regions and main specialized farming areas. Develop industry serving agriculture (production of input materials, equipment, machinery, agricultural product processing industry, etc.); agricultural services (warehouses, specialized transportation, trade, logistics, etc.). Have special incentives for the development of industries providing inputs and consuming outputs that are decisive factors to create added value for strategic agricultural product value chains, ensure that agriculture does not fall into the "processing trap". Reform mechanisms, simplify procedures,



create conditions and encourage to attract international aid, international and domestic investment in agriculture and rural areas, especially isolated, remote, disadvantaged and ethnic minority areas.

- Tax policies

Decentralize and adjust tax and fee policies in a more favorable manner for enterprises investing in agriculture and rural areas, create more jobs for rural residents and increase budget revenue for communes and districts. Reform tax incentives to create changes in allocating resources, encouraging and attracting selective investment in order to develop areas with difficult and extremely difficult conditions and some important industries. Review, cut, reduce and simplify tax administrative procedures to shorten time, reduce costs and increase efficiency of electronic tax registration, declaration, transfer and refund and use of electronic invoices for enterprises. Improve application of digital technology and information technology to deploy administrative procedures relative to tax and fee such as tax declaration, transfer and refund.

- Human resource development policies

Renew occupational training for farmers and rural workers. Give the initiative to cooperatives, farmer organizations, local communities and businesses in participating in requesting and developing contents of training in skills of agricultural production, non-agricultural professions, digital economy skills, new technologies, economic management skills, trade promotion, natural resources and environment management, production protection, foreign languages for guest workers, etc. based on actual requirements to create jobs and suitable for trends of rural economic restructuring. Provide leading experts with industry training. Provide agricultural technicians managers with capacity training in skills of negotiation, legality, market analysis, ecological management, responsibility management, organic agriculture, agriculture cycle, smart agriculture, etc. Develop training programs for "professional farmers", "high-skilled workers".

11. Supervise and assess

Organize supervision to improve the effectiveness of the Strategy forming the basis for policy making, plan adjustment and prompt resolution. Supervise programs, plans and projects for unscheduled, annual, 5-year-periodic and regular implementation of the Strategy. Review and adjust the Strategy suitable for each actual stage and condition. Assessment of results of implementing the Strategy shall ensure principles of independence and objectivity.



Build and implement a planning and supervising system for agriculture and rural areas applying science and technology to synchronously, accurately and promptly meet requirements for management and planning and development of agricultural production and business.

V. PRIORITIZED AND KEY PROGRAMMES AND PLANS

(Details are specified in the Appendix issued herewith)

VI. IMPLEMENTATION CAPITAL RESOURCES

Diversify mobilized capital resources and effectively use resources to deploy the Strategy.

- 1. Annual state budget (costs for development investment, recurrent costs) according to current state budget decentralization.
- 2. Funding integrated in the National Target Programs and public investment programs and projects for the period of 2021 2030.
- 3. Funding provided by foreign donors, international organizations, domestic and foreign enterprises, organizations and individuals and other legal costs.
- 4. Other financial resources according to the law.

Article 2. Organizing and implementing

- 1. The Ministry of Agriculture and Rural Development shall take charge and cooperate with ministries, central authorities and local divisions in organizing and implementing the Strategy; assigning specific tasks to ministerial agencies and units and guiding local divisions to implement; regularly urging and evaluating the implementation of the Strategy; summarizing and reporting to the Prime Minister the request-based and annual implementation results; organizing a preliminary review of the Strategy by 2025 and a summary of the Strategy by 2030.
- 2. The Ministry of Planning and Investment shall synthesize, balance and report the development and investment capital allocation priority for the period of 2021-2030 and plans in 5 years for the agriculture and rural areas to the Government and the Prime Minister for implementation of the Strategy. Take charge and cooperate with relevant ministries, central authorities and local divisions in formulating and deploying efficiently mechanisms and policies on encouraging enterprises to invest in agriculture and rural areas; adjusting agricultural investment structure. Actively review and propose amendments to



mechanisms and policies on attracting investment resources, invest according to public-private partnership in agriculture and rural areas; mechanisms and policies to support cooperative economic development.

- 3. The Ministry of Finance shall review and adjust tax, fee and insurance policies (including agricultural insurance); simplify tax administrative procedures towards creating favorable conditions for producing, trading agriculture and attracting investment of all economic sectors in agriculture and rural areas; form a rural credit system close to the role of farmer cooperatives and organizations. Based on the central budget balancing capacity, on the basis of the proposal of the Ministry of Agriculture and Rural Development and relevant ministries and central authorities, prioritize synthesis and arrangement specified in an annual recurrent cost estimate of the central budget, require competent authorities to consider and decide to balance and allocate costs specified in the cost estimates of agencies and units in accordance with the Law on State Budget and guiding documents for implementation the Strategy.
- 4. The State Bank of Vietnam shall continue to effectively implement credit policies for agricultural and rural development. Direct credit institutions to simplify procedures, balance capital resources in order to meet capital needs and create conditions for economic sectors to access credit resources for investment in agriculture and rural areas; especially projects on high-tech agriculture, processing industry, mechanization, development of organic and circular agriculture.
- 5. The Ministry of Industry and Trade shall take charge and cooperate with relevant ministries, central authorities and local divisions in implementing policies on agricultural product trade; strictly control and handle smuggling and trade fraud and temporary import for re-export of agricultural products. Organize and deploy mechanisms, policies and activities to promote domestic agricultural product consumption; support agricultural enterprises in participating in e-commerce supply chains. Take charge and cooperate with the Ministry of Planning and Investment, the Ministry of Agriculture and Rural Development and relevant ministries, central authorities and local divisions in developing priority policies to promote the development of agricultural support service-industry clusters. Take charge and cooperate with the Ministry of Agriculture and Rural Development, the Ministry of Transport and relevant ministries and central authorities in formulating and requiring the Prime Minister to approve and deploy the Logistics Development Plan in association with agricultural production and business areas. Cooperate with the Ministry of Agriculture and Rural Development in reviewing technical barriers and trade barriers for agricultural imports and exports; flexibly and effectively manage import and export that is suitable for actual situation and international rules;



direct foreign business transaction agencies to correctly and quickly seize commercial policies of nations; assist export enterprises to deploy commercial promotion and foreign agricultural product consumption market development.

6. The Ministry of Science and Technology shall take charge and cooperate with the Ministry of Agriculture and Rural Development in deploying effectively Programmes of national products, hi-tech science and technology development, national technology innovation and other science and technology programmes which are assist in development of agriculture and rural areas; review and adjust mechanisms and policies on development of research, transfer and application of science and technology in agriculture, especially hi-tech and digital technology; develop mechanisms promoting socialization of science and technology development resources serving agricultural and rural development; formulate technical standards and regulations, provide guidance on application of modern management tools and processes; assist in registration of protection, management, exploitation and development of intelligence properties and products which are protected by intellectual property right.

Take charge and cooperate with relevant ministries and central authorities in formulating Decree on policies on encouraging agricultural product production and processing facilities in investing in application and transfer of advanced and clean technology.

- 7. The Ministry of Natural Resources and Environment shall take charge and cooperate with relevant ministries and central authorities in proposing amendments to the Law on Land and other relevant laws towards encouraging accumulation and concentration of land serving large-scale agricultural production and agricultural land use right market development. Cooperate with the Ministry of Agriculture and Rural Development in researching and providing advices to the Government on policies and mechanisms serving green agriculture development, emission reduction and effective response to climate change, effective use of natural resources, environmental pollution abatement in rural agriculture areas and reservation of biodiversity.
- 8. The Ministry of Information and Communication shall take charge and cooperate with relevant ministries and central authorities in researching and providing advices to the Government on promulgation of policies and mechanisms serving agricultural digital transformation and smart village and communes developing. Cooperate in deploying contents of development of communication information infrastructure and digital infrastructure for agricultural and rural development.
- 9. The Ministry of Labour, Invalids and Social Affairs and the Ministry of Education and Training shall review and adjust policies on agricultural and rural



occupational training assistance in association with agricultural economic restructuring; occupational training associated with specific employers (enterprises, business facilities, cooperatives, etc.). Cooperate with the Ministry of Agriculture and Rural Development in making plans of human resource training, especially high-quality human resources for agricultural production and business, processing and reservation of agricultural products for meeting demands of restructuring agriculture and developing new rural areas.

- 10. The Ministry of Home Affair shall take charge and cooperate with relevant ministries, central authorities and administrative divisions in researching policies on innovating and perfecting agricultural management apparatus to innovate institution and procedures of managing, innovate public service provider organization and management systems, promote private sector involvement; enable organizations of farmers, partnership economy and the private sector to participate in providing public services; innovate social union activities according to the Strategy.
- 11. The Ministry of Culture, Sport and Tourism shall cooperate with the Ministry of Agriculture and Rural Development in formulating programmes and policies on agricultural and rural tourism development in association with developing new rural areas; cooperate in implementing activities promoting consumption of products belonging to the Programme "One commune one product" (OCOP) on key tourism markets.
- 12. The People's committee of provinces and central-affiliated cities, based on objectives and solutions of the Strategy, shall develop Plans of implementing agricultural and rural development strategies in the actual suitable provinces.

Organize and effectively implement the central policies issued, research and promulgate local specific mechanisms and policies to promote the implementation and improve the efficiency of agricultural and rural development. Arrange local budgets at all levels, mobilize resources from economic sectors to invest in agricultural and rural development.

Develop key programmes and projects in accordance with local characteristics and strengths; prioritize development of flagship products and local specialties associated with agricultural product processing industry and consumption market and environmentally friendly high technology application. Implement solutions to strengthen regional connection towards the development of clusters connecting production - preservation, processing - consumption of agricultural products associated with concentrated raw material areas that are synchronously mechanized and connected to agricultural product processing facilities and logistics systems, distribution channels, consumption of them.



13. The Vietnam Fatherland Front, the Vietnam Farmers' Union and sociopolitical organizations, associations, commodity associations and occupational associations shall be proactive and cooperate with the Ministry of Agriculture and Rural Development, ministries, central authorities and administrative divisions in effectively implementing policies on assisting the people, cooperatives and enterprises in implementing the Strategy orientations; participate responsibly in communication, social criticism and mobilize members and people to participate in agricultural and rural development. Participate in proposing policies, mechanisms and measures to encourage and support organizations and individuals that are members participating in investment in agricultural and rural development.

Article 3. This Decision comes into force from the date on which it is signed.

Ministers, Heads of Ministerial agencies, Heads of Governmental agencies, Presidents of the People's Committees of provinces and central-affiliated cities shall be responsible for implementation of this Decision.

PP. PRIME MINISTER DEPUTY PRIME MINISTER

Le Van Thanh

APPENDIX

LIIST OF KEY PROGRAMMES AND PROJECTS SERVING THE SUSTANABLE AGRICULTURE AND RURAL DEVELOPMENT STRATEGIES FOR THE PERIOD 2021 – 2030 WITH A VISION TOWARDS 2050

(Attached together with Decision No. 150/Q D-TTg dated January 28, 2022 of the Prime Minister)

	Name	Governing body	Cooperator	Time	Level
Ι	Implementing break institutions, policies	athrough strate	gies on improvi or the period of	ng the s 2021-20	ystem of 030



1.	Land Law Project (amended)	The Ministry of Natural Resources and Environment	Relevant ministries, central authorities and administrative divisions	2022	Congress
2.	Law Project amending the Law on Cooperatives in 2012	_	Relevant ministries, central authorities and administrative divisions	2022	Congress
3.	Area planning for the period of 2021-2030, with a vision towards 2050	The Ministry of Planning and Investment	Relevant ministries, central authorities and administrative divisions	2022	The Prime Minister
4.	National marine planning for the period of 2021-2030 with a vision towards 2045	The Ministry of Natural Resources and Environment	Relevant ministries, central authorities and administrative divisions	2022	Congress
5.	Fishery resources protection and exploitation planning for the period of 2021 – 2030 with a vision towards 2050	The Ministry of Agriculture and Rural Development	•	2022	The Prime Minister
6.	Science and technology policy and mechanism innovation project	The Ministry of Science and Technology	Relevant ministries and central authorities	2022	The Prime Minister
п	Promoting economic agricultural growth the efficiency and compe	models; improv	ing productivity	y, quali	ty,
7.	National Strategy on Nutrition for the	The Ministry of Health	Relevant ministries and	2022	The Prime Minister



	period 2021 – 2030 with a vision towards 2040		central authorities		
8.	National plan on transforming Vietnam's transparent, responsible and sustainable food system	The Ministry of Agriculture and Rural Development		2022	The Prime Minister
9.	Project on developing key industrial crops until 2030	The Ministry of Agriculture and Rural Development		2022	The Prime Minister
10.	Project on development of concentrated safe vegetable production areas and assurance of origin traceability in association with processing and consumption markets until 2030	The Ministry of Agriculture and Rural Development		2022	The Prime Minister
11.		The Ministry of Agriculture and Rural Development		2022	The Prime Minister
12.	Project on developing sharing economy to promote sustainable production and consumption for the period of 2021-2030	The Ministry of Industry and Trade	Relevant ministries and central authorities	2022	The Prime Minister



13.	Strategy for import and export of goods for the period of 2021-2030	The Ministry of Industry and Trade	Relevant ministries and central authorities	2022	The Prime Minister
III	Reforming public i	nvestment struc rural developm		agricu	ltural and
14.	Small and medium- sized enterprise assistance programme for the period of 2021-2025	The Ministry of Plan and Investment	Relevant ministries and central authorities	2022	The Prime Minister
15.	Programme of assisting small and medium-sized enterprise in participating in global value chains	The Ministry of Industry and Trade	Relevant ministries and central authorities	2021 - 2025	The Prime Minister
IV	Developing infrastru modern and sustaina		_	on agric	culture and
16	Project on building a synchronous infrastructure system in the period of 2021-2030 and implementing a breakthrough in the country's socioeconomic development strategy according to Resolution No. 13-NQ/TW	The Ministry of Plan and Investment	Relevant ministries and central authorities	2022	The Prime Minister
17.	Planning for system of fishing ports and anchorages for avoiding storms for fishing vessels for the period of 2021 – 2030 with a vision towards 2050	The Ministry of Agriculture and Rural Development		2022	The Prime Minister



V	Developing human resources; raising the level of research, applying and transferring science and technology						
18.	Project "Strategy for developing science, technology and innovation for the period of 2021 - 2030"	The Ministry of Science and Technology	Relevant ministries and central authorities	2022	The Prime Minister		
19.	Planning for the network of public science and technology organizations for the period of 2021 – 2030 with a vision towards 2050	The Ministry of Science and Technology	Relevant ministries and central authorities	2022	The Prime Minister		
20.	Project on developing circular economy in Vietnam	The Ministry of Plan and Investment	Relevant ministries and central authorities	2022	The Prime Minister		
21.	Programme for assisting digital transformation in enterprises, cooperatives and household businesses for the period of 2021-2025	The Ministry of Plan and Investment	Relevant ministries and central authorities, administrative divisions and agencies	2022	The Prime Minister		
22.	Programme for science and technology serving new rural area developing for the period of 2021 - 2030	The Ministry of Agriculture and Rural Development	The Ministry of Science and Technology	2022	The Prime Minister		
23.	Project on building high-quality human resources for high-tech development	The Ministry of Education and Training	Relevant ministries and central authorities, administrative	2023	The Prime Minister		



			divisions and agencies		
24.	Project on innovating and improving agricultural occupational training quality	The Ministry of Labor, War Invalids and Social Affairs	The Ministry of Agriculture and Rural Development	2022	The Prime Minister
25.	Programme for entrepreneurship farmers	The Ministry of Agriculture and Rural Development	central	2022	The Prime Minister
VI	Developing cooperat rural - urban areas; and business	,	•		
26.	Planning for system of urban areas and rural areas for the period of 2021 – 2030 with a vision towards 2050	The Ministry of Construction	Relevant ministries and central authorities	2022	The Prime Minister
	Project on new establishment of marine reserves and restoration of marine ecosystems by 2025 to ensure that the area of marine and coastal reserves reaches 3% of the area of Vietnam's territorial waters	The Ministry of Agriculture and Rural Development	authorities, administrative divisions and agencies	2022	The Prime Minister
VII	Developing agricultuareas.	re and develop	ing civilized and	l mode	rn rural
28	Programme "Fatherland Front building new rural	The Ministry of Agriculture and Rural Development		2022	The Prime Minister



	areas" for the period of 2021 - 2025		administrative divisions		
29.	Programme "One commune one product (OCOP)" for the period of 2021-2025	The Ministry of Agriculture and Rural Development	· ·	2022	The Prime Minister
30.	Programme "Agricultural tourism development in association with developing new rural areas for the period of 2021 - 2025	The Ministry Of Culture, Sports And Tourism	Relevant ministries, central authorities and administrative divisions	2022	The Prime Minister
31.	Programme "Digital transformation in developing smart new rural areas for the period of 2021-2025	The Ministry of Agriculture and Rural Development	The Ministry of Information and Communication and relevant ministries, central authorities and administrative divisions	2022	The Prime Minister
32.	Programme for strengthening environmental protection, food safety and rural clean water supply in building new rural areas for the period of 2021-2025	The Ministry of Agriculture and Rural Development	· ·	2022	The Prime Minister
33.	Project "Rural clean water supply" for the period of 2021-2025	The Ministry of Agriculture and Rural Development		2022	The Prime Minister



VIII	VIII Effectively managing and using natural resources; protecting ecological environment and landscapes					
34.	Plan "Action for implementing	The Ministry of Agriculture and Rural	Relevant ministries,	2022	The Prime Minister	
35.	Project "Development of Vietnam's carbon market"	The Ministry of Natural Resources and Environment	The Ministry of Finance and relevant agencies	2022	The Prime Minister	
36.	Strategy "National environment protection" for the period of 2021 – 2030 with a vision towards 2040	The Ministry of Natural Resources and Environment	central authorities and	2022	The Prime Minister	
37.	Planning "National biodiversity preservation" for the period of 2021 – 2030 with a vision towards 2050	The Ministry of Natural Resources and Environment	Relevant ministries, central authorities and administrative divisions	2022	The Prime Minister	
38.	Strategy "National water resources" by 2030 with a vision towards 2050	The Ministry of Natural Resources and Environment	Relevant ministries, central authorities and administrative divisions	2024	The Prime Minister	
	Planning "Natural disaster and irrigation prevention and control" for the period of 2021 – 2030 with a vision towards 2050	The Ministry of Agriculture and Rural Development	Relevant ministries, central authorities and administrative divisions	2022	The Prime Minister	
IX	Innovation and impr agriculture and rura		capacity and eff	fectiver	ness of	



40	Development and operation of database of cadres and officials	The Ministry of Home Affairs	Relevant ministries and central authorities	2021- 2023	The Government
41	General project on arranging administrative units of provinces and communes for the period of 2022-2030	The Ministry of Home Affairs	Relevant ministries and central authorities	2025	The Politburo, Secretariat, Government



Annex 4 – English version of No. 130/QD-TTg

THE PRIME MINISTER

THE SOCIALIST REPUBLIC OF VIETNAM Independence-Freedom-Happiness

No. 130/QD-TTg

Hanoi, January 27, 2021

DECISION

On promulgation of the National High-Tech Development Program through 2030

THE PRIME MINISTER

Pursuant to the Law on Organization of Government dated June 19, 2015; the Law Amending and Supplementing a Number of Articles of the Law on Organization of the Government and the Law on Organization of Local Administration dated November 22, 2019;

Pursuant to the Law on High Technology dated November 13, 2008; At the proposal of the Minister of Science and Technology,

DECICES:

Article 1. To promulgate the National High-Tech Development Program through 2030 (hereinafter referred to as the Program) with the following principal contents:

I. PROGRAM OBJECTIVES

1. General objectives

To research, master, develop high technologies and apply the efficiency of high technologies to serve socio-economic development, ensure national defense and security, protect the environment, manufacture products and provide services; to form and develop a number of high-tech industries, high-tech agriculture and enterprises operating in these domains.

- 2. Specific objectives
- a) To develop and master 20 high technologies on the List of high technologies prioritized for investment and development up to the regional advanced level and effectively apply such technologies into enterprises' production of high-tech products and provision of high-tech services.



- b) To increase the export value of high-tech products at about 60% of the total export value in the manufacturing and processing industry, rapidly increase the proportion of value of agricultural production with application of high technologies in the total value of agricultural production, and create new high value-added products and services.
- c) To establish and develop around 500 enterprises involving in production of high-tech products and provision of high-tech services on the list of high-tech products encouraged for development; to build and develop around 200 high-tech agricultural enterprises with the cooperation and linkage of production chain from manufacturing to processing and consumption of agricultural products nationwide.

II. PROGRAM COMPONENTS

The national high-tech development program by 2030 includes 03 program components with the specific contents as follows:

- 1. The program on research, application and development of high technologies, and development of high-tech products and services, in which the Ministry of Science and Technology shall assume the prime responsibility for:
- a) Researching, mastering and developing high technologies on the List of high technologies prioritized for investment and development and the List of high-tech products encouraged for development approved by the Prime Minister in 04 domains of prioritized technologies, including information and communication technology, biotechnology, automation technology and new material technology.
- b) Applying high technologies into socio-economic fields, security and national defense, manufacturing of high-tech products and services:
- Building and implementing projects on application of high technologies on the List of high technologies prioritized for investment and development and the List of high-tech products encouraged for development approved by the Prime Minister;
- Supporting enterprises and science and technology organizations to implement projects on high-tech application on the basis of research results of science and technology tasks that have been accepted as prescribed, technology transfer contracts or cooperation agreements on science and technology.
- 2. The program on development of a number of high-tech industries, in which the Ministry of Industry and Trade shall assume the prime responsibility for:
- a) Researching, mastering and developing high technologies on the List of high technologies prioritized for investment and development and the List of high-tech products encouraged for development approved by the Prime Minister in the industrial sector.
 - b) Applying high technologies in the industrial sector:



- Building and implementing projects on application of high technologies on the List of high technologies prioritized for investment and development and the List of high-tech products encouraged for development approved by the Prime Minister in the industrial sector;
- Focusing on supporting enterprises and science and technology organizations to implement projects on high-tech application in the industrial sector on the basis of research results of science and technology tasks at all levels that have been accepted, technology transfer contracts or cooperation agreements on science and technology.
 - c) Building and developing high-tech industries:
- Building and developing the ecosystem of enterprises involving in production of high-tech products and provision of high-tech services that participate deeply in global supply chains, meeting the needs of the logistics market and digital economy, and developing e-commerce on the basis of synchronous implementation with other programs such as the National Trade Promotion Program and the National Brand Program;
- Developing supporting industries for the development of high-tech industries on the basis of integration with the objectives, tasks and solutions of the Supporting Industry Development Program approved by the Prime Minister;
- Encouraging and supporting a number of economic groups and corporations in key economic sectors of the country to research, develop and master core technologies and key technologies of the fourth industrial revolution.
- 3. The program on development of high-tech agriculture, in which the Ministry of Agriculture and Rural Development shall assume the prime responsibility for:
- a) Researching, mastering and developing high technologies on the List of high technologies prioritized for investment and development and the List of high-tech products encouraged for development approved by the Prime Minister in the agricultural sector.
 - b) Applying high technologies in the agricultural sector:
- Building and implementing agricultural projects with application of high technologies on the List of high technologies prioritized for investment and development and the List of high-tech products encouraged for development approved by the Prime Minister in the agricultural sector.
- Focusing on supporting enterprises and science and technology organizations to implement agricultural projects with application of high technologies on the basis of research results of science and technology tasks at all levels that have been accepted, technology transfer contracts or cooperation agreements on science and technology.
 - c) Building and developing high-tech agriculture:



- Building and developing the ecosystem of agricultural enterprises with application of high technologies in agricultural production and provision of high-tech services; supporting the application of high technologies to develop high-tech agricultural enterprises, develop high-tech agricultural regions, support high-tech agricultural enterprises to participate deeply in global supply chains;
- Coordinating and supporting localities in the application of high technologies into effective operation and promotion of the technological nuclear role of high-tech agricultural zones established under the decision of the Prime Minister.

III. TASKS AND SOLUTIONS FOR PROGRAM IMPLEMENTATION

1. Institutional improvement

Reviewing and completing the system of legal documents for the purpose of promoting research, mastery and development of high technologies; applying the efficiency of high technologies to serve socio-economic development, ensure national defense and security, and protect the environment; manufacturing products and services, establishing enterprises and developing a number of high-tech industries and high-tech agriculture.

- 2. Supporting research and transfer of technology or intellectual property rights on the basis of research results, promoting close ties among enterprises and science and technology organizations
- a) Supporting funds for projects on research of high technologies that reach the regional advanced technology level; have decisive significance to the creation of key products of economic sectors; or create high-tech public services.
- b) Supporting funds for transfer of ownership and use of research results, technological development using state budget, investment in machinery, equipment, sample products, and design drawings, software, training and hiring of consultants, patents, transfer of intellectual property rights or industrial property rights, and verification of results for high-tech research cooperation projects among enterprises and science and technology organizations.
- c) Supporting funds for implementation of projects on experimental production of high-tech products encouraged for development.
- d) Supporting funds for application of results of high-tech research, experimental production and application projects.
- 3. Supporting and facilitating the application, production and provision of high-tech services
- a) Supporting direct investment in projects on the application, production and provision of high-tech services that are prioritized for investment and encouraged for development.



- b) Focusing on supporting the implementation of activities and tasks for improving quality and expanding the number of experts and consulting units in the domain of high-tech application and development.
 - 4. Promoting international cooperation on high technologies

Facilitating and supporting science and technology organizations and Vietnamese enterprises in international cooperation in service of high-tech research, application and development, especially with countries and territories, foreign organizations with advanced science and technology qualifications, with the following contents:

- a) Participating in organization and implementation of bilateral and multilateral scientific research cooperation programs and projects.
- b) Promoting cooperation and development of high-tech research establishments and centers; projects on cooperation in research, technology transfer, exploitation of patents and industrial property rights among Vietnamese enterprises and foreign high-tech enterprises.
- c) Exchanging experts or research staff of Vietnamese organizations and enterprises with those of foreign research and training organizations and high-tech enterprises. Participating in international groups, associations and other high-tech organizations. Inviting foreign high-tech experts or overseas Vietnameses to come to Vietnam for consulting, researching, teaching and performing the tasks of the Program.
 - 5. Raising public awareness of the role and impact of high technologies
- a) Organizing propaganda, dissemination and awareness-raising activities for society, organizations and enterprises about the results and achievements of high technology research and application in socio-economic development, security and national defense assurance; introducing and popularizing scientific and high-tech knowledge in education and training institutions.
- b) Organizing conferences, seminars and forums on high technologies with the participation of ministries, lines, agencies and experts, scientists, students in the country and abroad.

IV. FUNDING FOR PROGRAM IMPLEMENTATION

- 1. Funding for the program implementation shall be guaranteed from the following sources: The state budget allocations for implementation of the Program's tasks; capital of organizations and enterprises participating in the program implementation; sponsorship by domestic and foreign organizations and individuals; other lawful funding sources as prescribed by law provisions.
- 2. On an annual basis, ministries, ministerial-level agencies, Government-affiliated agencies, provincial and municipal People's Committees shall, based on the Program's objectives and contents, prioritize the allocation of funds to perform the tasks of the Program.



3. The management and use of funding allocated from the state budget and other lawful capital sources for the implementation of the tasks specified in this Decision shall comply with the law on the state budget and other relevant law provisions.

V. ORGANIZATION OF IMPLEMENTATION

1. The Program Steering Committee

The program shall be directed and coordinated by the National Science and Technology Program Steering Committee established under the decision of the Prime Minister.

The Management Boards of Program Components shall be established under the decision of the concerned Ministers, aiming to advise the implementation of the program components' activities.

- 2. Responsibilities of ministries and agencies
- a) The Ministry of Science and Technology:
- Acting as the focal point to monitor and review the development and implementation of the Program; coordinating the implementation of program components under the National High-Tech Development Program; organizing the implementation of the Program's tasks and solutions; reviewing the implementation and report it to the Prime Minister on an annual basis.
- Assuming the prime responsibility for, and coordinating with relevant ministries and agencies in, implementing activities to promote the application of the results achieved by the Program.
- Assuming the prime responsibility for formulating and completing the approval of the framework of program component on research, application and development of high technologies, development of high-tech products and services, and organizing the implementation.
- Reviewing science and technology plans and funds from program components and send them to the Ministry of Finance to allocate funds for the implementation of program components in accordance with regulations on the National Science and Technology Program.
 - b) The Ministry of Industry and Trade:
- Assuming the prime responsibility for, and coordinating closely with the Ministry of Science and Technology in, reviewing and formulating the framework of program components and implementing the assigned tasks in a consistent and effective manner.
- Assuming the prime responsibility for formulating and approving the framework of program component on development of a number of high-tech industries and organizing the implementation. Assuming the prime responsibility for, and coordinate with concerned ministries and branches in, performing



activities to promote the application of results of the program component; and reporting to the Ministry of Science and Technology before November 30 every year.

- On an annual basis, approving science and technology plans and funds for the implementation of the program component on development of a number of high-tech industries and submitting them to the Ministry of Science and Technology and the Ministry of Finance to review and allocate funds for the implementation of such program.
 - c) The Ministry of Agriculture and Rural Development:
- Assuming the prime responsibility for, and coordinating closely with the Ministry of Science and Technology in, reviewing and formulating the framework of program components and implementing the assigned tasks in a consistent and effective manner.
- Assuming the prime responsibility for formulating and approving the program component on development of high-tech agriculture and organizing the implementation. Assuming the prime responsibility for, and coordinating with concerned ministries and branches in, performing activities to promote the application of results of the program component; and reporting to the Ministry of Science and Technology before November 30 every year.
- Acting as the main agency to monitor, review and report to the Prime Minister about the situation of support and application of science and technology to develop high-tech agricultural zones, regions and enterprises.
- On an annual basis, approving science and technology plans and funds for implementation of the program component on development of high-tech agriculture and submitting them to the Ministry of Science and Technology and the Ministry of Finance to review and allocate funds for the implementation of such program.
- d) The Ministry of Information and Communications, Ministry of Health, Ministry of Education and Training, Ministry of Transport, Ministry of Construction, Ministry of National Defence, Ministry of Public Security, Vietnam Academy of Science and Technology and other concerned ministries or agencies shall, based on the Program contents, organize the implementation of the Program's tasks and solutions within their respective scope and fields; propose tasks and submit them to the Ministry of Science and Technology to organize the implementation as prescribed.

dd) Ministry of Finance:

- Assuming the prime responsibility for, and coordinating with the Ministry of Science and Technology and concerned ministries and branches in, allocating and managing the State budget for the Program in accordance with the Law on State Budget, the Law on High Technology and other relevant law provisions.



- Assuming the prime responsibility for, and coordinating with the Ministry of Science and Technology in, reviewing and building a financial mechanism for the program implementation.
 - e) Provincial and municipal People's Committees:
- Supporting local projects in accordance with the Government's Decree No. 57/2018/ND-CP dated April 17, 2018 on mechanisms and policies to encourage enterprises to invest in agriculture and rural areas.
- Coordinating with relevant ministries and agencies in implementing the Program; reviewing the situation of technology resource support for development of high-tech agricultural zones and regions, high-tech agricultural enterprises and submitting them to the Ministry of Agriculture and Rural Development to report to the Government and the Prime Minister.

Article 2. Effect

This Decision takes effect from the date of signing.

Article 3. Responsibilities for implementation

Ministers, heads of ministerial-level agencies, heads of Government-affiliated agencies, chairpersons of provincial and municipal People's Committees shall implement this Decision./.

For the Prime Minister
The Deputy Prime Minister
Vu Duc Dam



Annex 5 – English version of No. 38/2020/QD-TTg

THE PRIME MINISTER

THE SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness

No. 38/2020/QD-TTg

Hanoi, December 30, 2020

DECISION

Promulgating the List of high technologies prioritized for development investment and List of hi-tech products eligible for development promotion¹

Pursuant to the June 19, 2015 Law on Organization of the Government; and the November 22, 2019 Law Amending and Supplementing a Number of Articles of the Law on Organization of the Government and Law on Organization of Local Administration;

Pursuant to the November 13, 2008 Law on High Technologies;

At the proposal of the Minister of Science and Technology,

The Prime Minister promulgates the Decision promulgating the List of high technologies prioritized for development investment and List of hi-tech products eligible for development promotion.

DECIDES:

- **Article 1.** List of high technologies prioritized for development investment and List of hi-tech products eligible for development promotion
 - 1. Promulgated together with this Decision are:
- a/ The List of high technologies prioritized for development investment (in Appendix I);
- b/ The List of hi-tech products eligible for development promotion (in Appendix II).
- 2. For high technologies and hi-tech products that are not on the lists mentioned in Clause 1 of this Article but satisfy the conditions specified in Clause 3, Article 5, and Clause 1, Article 6, of the Law on High Technologies

¹ Công Báo Nos 37-38 (26/01/2021)



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and are urgently needed for national socio-economic development, the Ministry of Science and Technology shall assume the prime responsibility for, and coordinate with related ministries and agencies in, summing up and reporting them to the Prime Minister.

Article 2. Effect and implementation responsibility

- 1. This Decision takes effect on February 15, 2021, and replaces the Prime Minister's Decision No. 66/2014/QD-TTg of November 25, 2014, approving the List of high technologies prioritized for development investment and List of hitech products eligible for development promotion; the Prime Minister's Decision No. 13/2017/QD-TTg of April 28, 2017, amending and supplementing the List of high technologies prioritized for development investment and List of hi-tech products eligible for development promotion; and Clause 2, Article 1, and Article 4, of the Prime Minister's Decision No. 34/2019/QD-TTG of December 18, 2019, providing criteria for identification of production and business projects and plans that apply high technologies in agriculture, and supplementing the List of high technologies prioritized for development investment promulgated together with the Prime Minister's Decision No. 66/2014/QD-TTg of November 25, 2014.
- 2. Ministers, heads of ministerial-level agencies, heads of government-attached agencies, chairpersons of provincial-level People's Committees, and related agencies, organizations and individuals shall implement this Decision.

For the Prime Minister
Deputy Prime Minister
VU DUC DAM

Appendix I

LIST OF HIGH TECHNOLOGIES PRIORITIZED FOR DEVELOPMENT INVESTMENT

(To the Prime Minister's Decision No. 38/2020/QD-TTg of December 30, 2020)

- 1. Artificial intelligence (AI) technology.
- 2. Internet of things (IoT).
- 3. Big data and big data analytics technology.
- 4. Blockchain technology.



- 5. Virtualization, cloud computing, grid computing, edge computing and fog computing technology.
 - 6. Quantum technology.
 - 7. Advanced cybersecurity and information confidentiality technology.
 - 8. Digital twin technology.
 - 9. Virtual reality, augmented reality and mixed reality technology.
 - 10. Building information modeling (BIM) technology.
 - 11. Bioinformatics technology.
- 12. Geoinformatics applied in hydrometeorological systems, oil and gas exploration and exploitation, and agriculture.
- 13. Technology for designing, integrating and optimizing telecommunications networks and systems in the national telecommunications infrastructure.
 - 14. Technology for designing and building information systems for lease.
- 15. Technology for integrating telecommunications technology and information technology systems.
- 16. Business process outsourcing (BPO), knowledge process outsourcing (KPO), and e-information technology outsourcing (ITO) technology; e-signature certification; digital content creation automation; software test automation.
 - 17. Aviation, space and remote-sensing technology.
 - 18. Technology for designing and manufacturing micro and nano satellites.
- 19. 4G, 5G, 6G, NG-PON, SDN/NFV, SD-RAN, SD-WAN, LPWAN, IO-Link wireless, network slicing and new-generation optical transport network.
 - 20. Cognitive radio technology.
- 21. New-generation television technology: encoding and decoding new-generation signals (H.265/HEVC, H.266/VVC); encapsulating and transmitting signals on the Internet platform via next-generation telecommunications networks (4G, 5G, 6G); hybrid broadcast broadband television (HbbTV); interactive television.
- 22. Technology for designing and manufacturing integrated circuits (IC) and flexible electronics components and microchips.
 - 23. Technology for designing and manufacturing high-definition monitors.



- 24. Technology for manufacturing embedded computers, servers and high-performance computing systems.
- 25. Technology for developing operating systems for special-use computers and new-generation mobile devices.
- 26. Technology for designing and manufacturing new-generation intelligent terminals.
- 27. Technology for designing and manufacturing smart antennas and phased array antennas in frequency bands.
 - 28. Technology for designing and manufacturing ground-penetrating radars.
- 29. Technology for designing and manufacturing equipment, software, solutions, platforms and services for digital government, digital economy, digital society and digital transformation in priority fields.
- 30. Technology for designing and building simulation systems for equipment and means of transport; plant simulation.
 - 31. Smart human-computer interaction technology.
 - 32. Sonar technology.
 - 33. Carbon capture and storage technology.
 - 34. Photonics and smart light technologies.
 - 35. Photovoltaics technology.
 - 36. Hydrogen energy technology.
 - 37. Power microgeneration technology.
- 38. Non-traditional manufacturing (NTM) technology using ultrasonic, electric spark, chemistry and electrochemistry, plasma, high-pressure waterjet, and laser.
 - 39. Technology for surface treatment and welding in special environments.
- 40. Advanced forging and embossing technology for making billets of mechanical engineering products.
 - 41. Advanced 3D-printing technology.
 - 42. New-generation drilling technology for oil and gas exploration.
 - 43. Advanced oil and gas exploration and recovery technology.
 - 44. Advanced energy storage technologies.
 - 45. Advanced wind turbine technologies.



- 46. Technologies for electricity generation powered by tidal, sea wave or geothermal energy; storage of gaseous fuels with high energy density; storage of high-performance, large-capacity renewable energy; fuel cells; high-performance, large-capacity, longevity, safe and environment-friendly lithium batteries; uninterruptible power supply (UPS) with supercapacitors.
- 47. Technologies for flexible manufacturing (FM), computer-integrated manufacturing (CIM) and intelligent manufacturing systems (IMS).
 - 48. Precision agriculture technology.
- 49. Technologies for designing and manufacturing control devices and static converters for electricity generation stations powered by renewable energy and smart electricity transmission; chemical industry and ore sorting; electric vehicles; industrial electric drive systems; advanced home electronic appliances; health; construction and agriculture.
- 50. Technology for designing and manufacturing advanced actuators, controllers, monitoring and diagnostic units for complete equipment systems in plants.
- 51. Technology for designing and manufacturing high-performance electric machines: substations of 500 kV or higher voltage, gas insulated substations (GIS), and digital substations.
- 52. Technology for designing, manufacturing and integrating advanced robots; self-propelled equipment.
- 53. Technology for designing and manufacturing new-generation high-precision computer numerical control (CNC) machine-tools.
- 54. Technology for designing and manufacturing high-precision high-quality advanced molds with technical functions.
- 55. Technology for designing, manufacturing, installing and launching jackup rigs and semi-submersible rigs for oil and gas exploitation and extra-long and extra-heavy structures for oil and gas industry; large-load special-use lifting equipment.
- 56. Technology for designing and manufacturing large-sized ships and ships with complex properties.
- 57. Technology for designing and manufacturing drive devices and rail systems for cableless hoists and cableless hoists used in construction.
- 58. Technology for designing and manufacturing advanced agricultural machinery: new-generation cultivating, tending, harvesting and post-harvest



processing machines; equipment systems for industrial-scale food processing and preservation.

- 59. Technology for designing and manufacturing smart education and training systems and equipment.
- 60. Smart grid technology; technology for designing and manufacturing equipment and devices for smart grids.
- 61. Technology for manufacturing automatic environmental pollution monitoring systems.
- 62. Technology for designing and manufacturing advanced measuring equipment and devices: contactless, non-destructive and light-diffusing measuring devices; LiDAR devices, inertial navigation systems (INS), high-precision electronic compasses; profile projectors; digital oscilloscopes, spectrum analyzers and radiometers.
- 63. Technology for designing and manufacturing advanced optical systems and instruments: complex optical microscopes; high-quality lens, prisms and contact lens; large-capacity laser (except diode laser) projectors; special-use digital cameras; new-generation camera modules.
- 64. Technology for designing and manufacturing smart systems and equipment for medical diagnosis, monitoring, treatment and human health care.
- 65. Technology for designing and manufacturing micro-electromechanical systems (MEMS), nano-electromechanical systems (NEMS), biosensors, smart sensors, and lab-on-a-chip (LOC) systems.
 - 66. Synthetic biology and molecular biology technology.
- 67. Technology for synthesizing advanced biofuels; technology for manufacturing advanced biofuel preparations.
 - 68. New-generation micro-biotechnology.
 - 69. Industrial-scale soilless cultivation technology.
- 70. New-generation technologies for treating, processing and preserving agricultural products.
 - 71. Neurotechnologies.
 - 72. Regenerative medicine and tissue engineering technologies.
 - 73. Nuclear and radiation technologies in industry, agriculture and health.
- 74. Technology for treating hazardous medical solid wastes with low-temperature sterilization, microwave or plasma.



- 75. New-generation genomic sequencing technology.
- 76. Stem cell technology applied in tissue and organ regeneration and disease treatment; technology for disease treatment with immune cells.
- 77. Technology for industrial-scale propagation and culture of high-quality cell tissues.
- 78. Genomics, transciptomics, proteomics, metabolomics and metanenomics technologies.
 - 79. Molecular analysis and diagnosis technology.
- 80. Technology for separating and extracting super-clean active pharmaceutical ingredients.
- 81. Technology for manufacturing lyophilized tablets, controlled release tablets, Lidose capsules, targeted therapy drugs.
- 82. Technology for manufacturing and producing monoclonal antibodies, proteins, recombinant enzymes.
- 83. Technology for manufacturing antibacterial and antiviral equipment and materials for medical use.
- 84. Technology for preparing and producing new-generation vaccines, medical biologicals and diagnostic biologicals.
- 85. Technology for manufacturing and producing microorganic preparations up to international standards.
- 86. Technology for manufacturing new-generation fertilizers, pesticides, plant growth regulators, and erogenous agents for aquatic animals up to international standards.
- 87. Extraction technology in industrial-scale production of super-clean materials.
 - 88. Technology for upcycling polymers.
 - 89. Catalytic and absorbent material technology.
- 90. Physical vapor deposition (PVD) and chemical vapor deposition (CVD) technologies.
 - 91. High-class nanomaterial and nanocoating technology.
 - 92. Nanotechnology in manufacturing.
 - 93. Technology for manufacturing pure metals and special alloys.



- 94. Technology for metal corrosion inhibition in marine and island environments and special industrial processes.
- 95. Technology for manufacturing high-quality pre-cast non-metallic reinforced concrete components.
 - 96. Technology for 500-kA aluminum electrolysis.
- 97. Technologies for manufacturing advanced materials: materials for manufacturing micro-electromechanical components and smart sensors; semi-conductor, optoelectronic and photonic materials; invisible materials; self-healing materials; magnetic materials; advanced 3D-printing materials; super-durable and ultra-light materials; materials and devices in constant or permanent contact with fluid, bone, tissue or blood; biomedical materials; advanced polymer materials and high-quality polymeric substrates; environment-friendly biodegradable polymers; hi-tech ceramic and porcelain materials; high-performance fiber materials, special glass fibers, carbon fibers; functional materials.
- 98. Technology for manufacturing high-class and environment-friendly special-use paints.
- 99. Technology for manufacturing high-class technical rubber and synthetic rubber for exclusive use in machine building, electricity, electronics, security and national defense.

Appendix II

LIST OF HI-TECH PRODUCTS ELIGIBLE FOR DEVELOPMENT PROMOTION

(To the Prime Minister's Decision No. 38/2020/QD-TTg of December 30, 2020)

- 1. AI-based systems, devices, software, identity analysis, prediction and control.
- 2. Devices, modules, software, platforms, IoT integration solutions and IoT-based services.
 - 3. Blockchain technology devices, software, solutions and services.
- 4. Virtualization devices, software, solutions and services, and system integration, cloud computing, edge computing and fog computing services.
- 5. Advanced devices, software, solutions and services for cybersecurity and information confidentiality assurance.



- 6. Smartcards and smartcard readers.
- 7. Virtual reality, augmented reality and mixed reality devices, software, solutions and services.
 - 8. Building information modeling (BIM).
 - 9. Biomedical information processing software and databases.
- 10. Services of designing, integrating and optimizing telecommunications networks and systems in the national telecommunications infrastructure system.
- 11. Services of counseling, designing and leasing information technology systems.
- 12. Services of integrating and managing telecommunications and information technology systems.
- 13. BPO, KPO and e-ITO services; e-signature certification services; digital content creation automation services.
 - 14. Software, devices, solutions and services for software test automation.
- 15. Satellites, small satellites, microsatellites and satellite equipment; satellite equipment and receiver-transmitter terminals; aerial vehicles; aerial vehicle control systems.
 - 16. Global positioning systems and equipment.
- 17. Next-generation equipment, modules and network software (4G, 5G, 6G, NG-PON, SDN/NFV, SD-RAN, SD-WAN, LPWAN, io-Link wireless, network slicing, new-generation optical transport networks).
 - 18. Cognitive radio equipment, software and solutions.
- 19. New-generation signal encoding and decoding (H.265/HEVC, H.266/VVC) equipment, modules and software; equipment for encapsulating and transmitting signals on the Internet platform via next-generation telecommunications networks (4G, 5G, 6G); hybrid broadcast broadband television (HbbTV) and interactive television systems and equipment.
 - 20. Microchip and IP core designs.
- 21. Integrated circuit (IC) components and microchips; flexible electronics products and circuits.
 - 22. High-definition monitors;
- 23. Embedded computers and high-performance servers and computing systems.



- 24. Operating systems for special-use computers and new-generation mobile devices.
 - 25. New-generation intelligent terminals.
 - 26. Smart antennas and phased array antennas for frequency bands.
 - 27. Ground-penetrating radars.
- 28. Equipment, software, solutions, platforms and services for digital administration, digital economy, digital society and digital transformation in priority fields.
- 29. Monitoring cabin simulation systems for vehicles and means of transport, plant simulation.
- 30. Non-traditional manufacturing (NTM) equipment and solutions using ultrasonic, electric spark, chemistry and electrochemistry, plasma, high-pressure waterjet, and laser.
- 31. Equipment and solutions for surface treatment and welding in special environments.
 - 32. Advanced 3D-printing equipment, software and solutions.
- 33. New-generation drilling systems and equipment for oil and gas exploration.
- 34. Power generation systems powered by tidal, sea wave or geothermal energy.
 - 35. Environment-friendly high-performance photovoltaic (PV) panels.
- 36. Systems and equipment for storage of gaseous fuels with high energy density.
- 37. High-performance large-capacity systems and equipment for storage of renewable energy.
- 38. Fuel cells; high-performance, large-capacity, longevity, safe and environment-friendly lithium batteries; and uninterruptible power supply (UPS) units with supercapacitors.
 - 39. Advanced electrolytes and electrolyte membranes for fuel cells.
- 40. Optimal control systems, structures and mechanisms for supply of fuels and oxygen and efficient management of heat for fuel cells.
- 41. Flexible manufacturing system (FMS), computer integrated manufacturing (CIM) and intelligent manufacturing system (IMS) equipment, lines, systems, software and solutions.



- 42. Digital protection devices and equipment for assurance of power quality in power systems.
- 43. Large-capacity high-performance control devices and static converters for electricity generation stations powered by renewable energy and smart electricity transmission; chemical industry and ore sorting; electric vehicles; industrial electric drive systems; advanced home electronic appliances; health; construction and agriculture.
 - 44. High-performance wireless charging devices and stations.
- 45. Advanced actuators, automatic control, monitoring and diagnostic units for complete equipment systems in plants.
- 46. High-performance electric machines: substations of 500 kV or higher voltage, gas insulated substations, and digital substations.
 - 47. Advanced robots and advanced robot integration systems.
 - 48. Self-propelled equipment.
- 49. New-generation high-precision computer numerical control (CNC) systems, machine-tools and devices.
 - 50. High-precision high-quality advanced molds with technical functions.
- 51. Jackup rigs and semi-submersible rigs for oil and gas exploitation and extra-long and extra-heavy structures for oil and gas industry; large-load special-use lifting equipment.
 - 52. Large-sized ships and ships with complex properties.
- 53. Drive devices and rail systems for cableless hoists and cableless hoists used in construction.
- 54. New-generation cultivating, tending, harvesting and post-harvest processing machines.
- 55. Equipment systems for industrial-scale food processing and preservation.
 - 56. Smart education and training systems and equipment.
 - 57. Equipment and devices for smart power grids.
 - 58. Automatic environmental pollution monitoring systems.
 - 59. Contactless, non-destructive and light-diffusing measuring devices.
- 60. LiDAR devices, inertial navigation systems (INS), high-precision electronic compasses.



- 61. Profile projectors.
- 62. Digital oscilloscopes, spectrum analyzers and radiometers.
- 63. Complex optical microscopes.
- 64. High-quality lens, prisms and contact lens.
- 65. Large-capacity laser (except diode laser) projectors.
- 66. Special-use digital cameras, new-generation camera modules.
- 67. Smart systems and equipment for medical diagnosis, monitoring, treatment and human health care.
- 68. Micro-electromechanical systems (MEMS), nano-electromechanical systems (NEMS), biological sensors, smart sensors, and lab-on-a-chip (LOC) systems.
 - 69. Advanced biofuel preparations.
- 70. Industrial, agricultural and medical equipment using nuclear technology or radiation technology.
- 71. New-generation genomic sequencing technology products and solutions.
- 72. Replacement cells, tissues and organs created from stem cells; disease treatment with stem cells and immune cells.
- 73. High-quality products made on an industrial scale from cell propagation and culture.
 - 74. Molecular analysis and diagnosis systems and equipment.
 - 75. Super-clean active pharmaceutical ingredients.
- 76. Lyophilized tablets, controlled release tablets, Lidose capsules, targeted therapy drugs.
 - 77. Monoclonal antibodies, proteins, and recombinant enzymes.
 - 78. Antibacterial and antiviral equipment and materials for medical use.
- 79. New-generation vaccines, medical biologicals and diagnostic biologicals.
 - 80. International-standard microorganic preparations.
 - 81. New-generation fertilizers and pesticides up to international standards.
- 82. New-generation plant growth regulators and erogenous agents for aquatic animals up to international standards.



- 83. High-purity materials manufactured by extraction technology on an industrial scale.
 - 84. Upcycling polymers.
 - 85. Catalytic and absorbent materials.
- 86. Membranes manufactured with physical vapor deposition (PVD) and chemical vapor deposition (CVD) technologies.
 - 87. High-class nanomaterials and nanocoatings.
 - 88. Products and equipment using nanotechnology.
 - 89. Pure metals and high-strength special alloys.
- 90. Systems and materials for metal corrosion inhibition in special climate conditions and special industrial processes.
 - 91. High-quality pre-cast non-metallic reinforced concrete components.
 - 92. Metallic aluminum manufactured with 500-kA electrolysis technology.
- 93. Materials for manufacturing micro-electromechanical components and smart sensors.
 - 94. Semi-conductor, optoelectronic and photonic materials.
 - 95. Invisible materials.
 - 96. Self-healing materials.
 - 97. Advanced magnetic materials.
 - 98. Advanced environment-friendly 3D-printing materials.
- 99. Super-flexible, super-durable and ultra-light materials of environment-friendly origin or for use in harsh environments.
- 100. Materials and devices in constant or permanent contact with fluid, bone, tissue or blood.
- 101. Advanced polymer materials and high-quality polymeric substrates for use in harsh environments and resilient to tropical climate.
- 102. Environment-friendly biodegradable bioplastics and polymers manufactured from renewable materials and bio-materials.
- 103. Technical ceramic and porcelain materials for electric, electronic and machine-building industries.
 - 104. High-performance fibers, special glass fibers and carbon fibers.
 - 105. Functional materials.



- 106. Environment-friendly high-class special-use paints.
- 107. High-class technical rubber materials and special-use synthetic rubber materials for machine building, electric and electronic industries, security and national defense.



For further information

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