

Key messages

- Utilise the full potential of knowledge and innovation for sustainable development of agriculture through establishment of a national agricultural extension system that is centrally coordinated by MOFALI but ensures participation of all relevant actors;
- NAEC, Aimag Departments of Food and Agriculture, and soum governments shall assume coordinating and operational functions in the system while bag governors, demonstration farms, herder advisers and farmer advisers shall be responsible for service delivery at the local level;
- Secure the functionality of the system through enabling legislative and regulatory frameworks and co-funding arrangements with potential funding partners;
- Focal areas of extension services shall be facilitation of innovation, farmer training, and delivery of information and advice.

Model of a national agricultural extension system coordinated by the Ministry of Food, Agriculture and Light Industry

As the awareness of the low productivity, high climate vulnerability and negative environmental impacts of Mongolian agriculture is increasing, there is also increased awareness at the policy level of the importance of innovation and knowledge transfer for improving the competitiveness and sustainability of agriculture. Recent measures of the Ministry of Food, Agriculture and Light Industry (MOFALI) to strengthen agricultural extension services include the reestablishment of the National Agricultural Extension Centre (NAEC) under MOFALI, along with an increase in its personnel and the establishment of a position devoted to coordination and delivery of extension services at the Aimag Departments of Food and Agriculture (ADFAs). In addition, the ministry is currently elaborating a Law on Agricultural Extension Services, which is planned to be submitted to the parliament in 2020.

However, a clear concept of the structure and funding of extension services, and the roles and responsibilities of different stakeholders is yet to be presented. In connection with planned legislation of agricultural extension, therefore, it should be clarified what extension services are to be coordinated by MOFALI through NAEC and ADFAs and how that structure would be, along with supporting structures involving public and non-public actors, incorporated in a "National Agricultural Extension System". Another question relates to funding of extension services, or more precisely, funding by MOFALI in relation to other sources of funds, including co-funding arrangements and fee-for-service schemes.

As a basis for discussion of these issues, this policy brief presents a draft model of service delivery, stakeholder

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interactions and funding arrangements in the envisioned national agricultural extension system under MOFALI's coordination.

Overview of agricultural extension services to be coordinated by MOFALI

Based on a qualitative analysis of the current situation, we identified the following focal areas of agricultural extension services:

- Facilitation of innovation
- Farmer training
- Delivery of information and advice

Although extension services usually target all of these areas (for example, Farmer Field Schools facilitate technology transfer, train farmers and deliver information and advice at the same time), they are separately explained below.

Facilitation of innovation is broadly structured in technology transfer (dissemination of the results of agricultural research) and facilitation of local innovation (helping farmers innovate and disseminate their innovation). Proven extension methods to facilitate innovation include on-farm trials, field-based training, study tours, exchange meetings and delivery of expert advice, and they can be effectively supplemented by information and promotion via publications and media.

Farmer training in the future should be divided in formal and non-formal training. For non-formal farmer training, we recommend a combination of the traditional mentoring scheme (training of younger herders/farmers by experienced herders/farmers) and the Farmer Field School approach, which has proven its effectiveness in over 90 countries. Mentees and facilitators of the FFSs should be trained and certified local “farmer advisers” and “herder advisers”.

The national agricultural extension system, however, also need to emphasise formal training of farmers as to provide them with the possibility to gain education in a systematic manner, yet without the burden to leave their farms for two to four years, which the academic education at agricultural colleges and MULS requires. In the suggested model, formal training is conducted in modules and by the ADFAs in collaboration with an existing educational institution in each aimag. Trainers may include MULS lecturers or local experts, who must be accredited to teach on a specific subject matter. The modules should be scheduled during the periods of the least workload of local farmers/herders, and each module should require no longer than two weeks of attendance. Upon successful completion of each module (proven through an exam), the participants should receive the respective credit-hours. Upon reaching a certain number of credit-hours, they should be awarded a certificate attached to certain benefits. Possible benefits to be considered by MOFALI include, but are not limited to, the following:

- Privileged status as an applicant for a soft credit from the “Soum Development Fund”,
- Status as “herder adviser” or “farmer adviser”, which enables the person to conduct field training (e.g. Farmer Field Schools), mentoring or other extension activities with full or partial public funding.
- Deduction of the completed credit-hours from a degree program when the certificate holder wishes to pursue academic education at a later stage.

Regarding **delivery of information and advice**, we must differentiate. Advisory services targeting individual clients (mostly larger farms of agribusiness firms) are usually based on a fee-for-service scheme, and best left to consulting firms, independent consultants or other actors outside the MOFALI's coordination. Delivery of information and advice under MOFALI's coordination should target the mass of farmers and herders.

Recommended extension methods include exchange meetings, distribution of mobile libraries or information bags that circulate from farm to farm, and the use of audio-visual media (television, radio and social media).

Roles and duties of the main actors in the suggested national extension system

The roles of the main actors in the envisioned national agricultural extension system are outlined in Figure 1 and explained below.

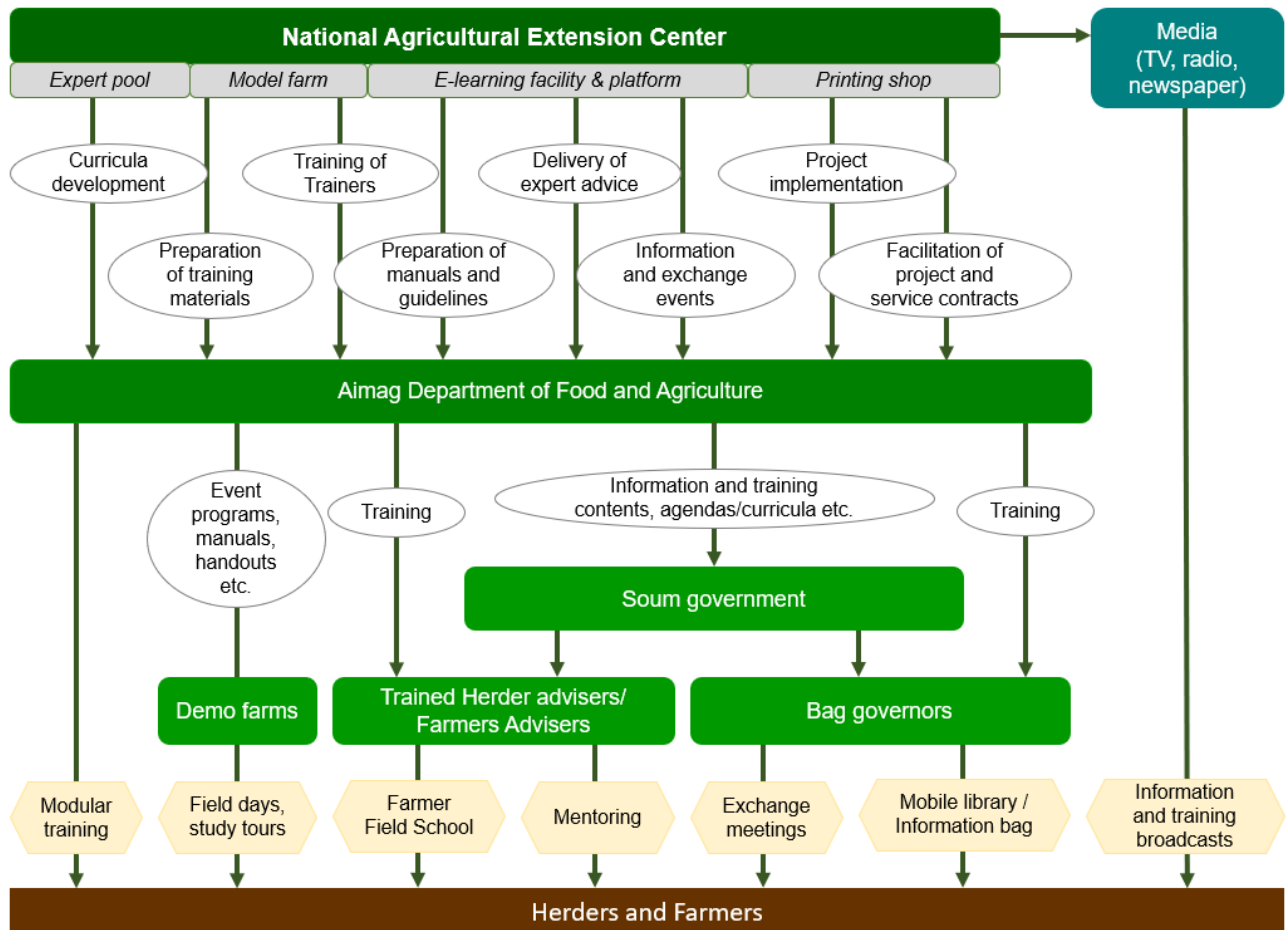


Figure 1. Recommended structure of the national agricultural extension system

NAEC should represent MOFALI as the central coordinator of the national agricultural extension system, and be entitled to approval and M&E of annual plans of the ADFAs for extension activities. In connection with its coordinating functions, NAEC shall also assume the operational tasks shown in Figure 1. Recurring operational tasks of NAEC include training of aimag-based trainers, curricula development, delivery of training materials and publications (handbooks, training handouts etc.) to the ADFAs, facilitation of information and exchange among the ADFAs through periodical events, and preparation of information and training broadcasts via public (and social) media. Tasks to be performed by NAEC on a case-by-case basis include project implementation and brokering of projects and service contracts for implementation by ADFAs.

ADFAs are expected to take over both coordinating and operational functions too. They will coordinate extension activities performed by soum governments. The operational tasks include formal (modular) farmer training, periodical non-formal training of farmer/herder advisers and bag governors, dissemination of training and information materials to the soum governments, and planning and co-implementation of extension activities at demonstration farms.



Soum governments will plan and coordinate extension services provided by herder/farmer advisers and bag governors. The services offered by herder advisers or farmer advisers will include facilitation of Farmer Field Schools and mentoring. Bag governors will facilitate exchange meetings of local herders and farmers, and distribute mobile libraries and/or information bags filled with information and learning materials provided by the ADFAs via the soum government.

Demonstration farms are local farms or herder households, which are to be entitled (through a certification procedure) by MOFALI to receiving public funds for implementation of activities to facilitate technology transfer and local innovation, such as on-farm trials, field days and hosting of study tours and excursions. In addition, they can prepare training videos or live broadcasts to share their innovation and experiences.

Demonstration farms are an essential component in the suggested national agricultural extension system, and while there are a number of arguments, we only choose two to support this concept. First, demonstration of new technologies and practices at a local farm closes the gap between research and practice, and enables farmers who visit the demonstration farm to make a realistic assessment of the feasibility and effectiveness of the technologies and practices demonstrated. Furthermore, the concept encourages innovation by the demonstration farms themselves, whereby the demonstration farms not only promote their innovation but also disseminate the idea that, besides research institutions, farmers can innovate too. Given the limited capacity of research institutions to meet the continuous demand of farmers for better inputs, technologies and practices that are adaptable in the various agroecological zones of Mongolia, encouraging local innovation is of essential importance for the future development of the agricultural sector.

Funding of extension services

The envisioned national agricultural extension system requires continuous funding by the government through MOFALI. Once a functioning structure is established, however, the following additional funds are expected to flow into the extension system:

- Government funds for agricultural R&D (distributed by the Ministry of Education, Culture and Sciences (MECS) through the Fund for Science and Technology)
- Donor funds for development projects;
- Funds spent by input suppliers and processors of agricultural products on technology promotion, farmer training and advisory services;
- Fees paid by herders and farmers.

The flows of funds across the hierarchy of actors in the national agricultural extension system are outlined in Figure 2 and explained below.

MOFALI shall distribute annual budget to NAEC and ADFAs for coordination and implementation of extension activities. From the ADFAs, the funds will flow through the soum governments to demonstration farms, herder/farmer advisers and bag governors.

A certain share of **public funds for agricultural R&D** can be channelled to NAEC and ADFAs for technology transfer activities. In particular, these funds can be used for on-farm trials at the demonstration farms. The framework for collaboration between the research and extension systems can be provided through a long-term agreement between the MOFALI and either MULS or the MECS.

Donor funds for development projects have been accessed by NAEC through service contracts, where the development agency outsources certain tasks or components of a certain project to NAEC. In a few cases, NAEC also implemented or co-implemented whole projects. In the future, the collaboration should not only be

expanded to involve ADFAs as implementing partners but also occur formally and regularly rather than on a case-by-case basis. Therefore, development agencies reporting to MOFALI should be advised by the ministry to systematically co-operate with the national agricultural extension system.

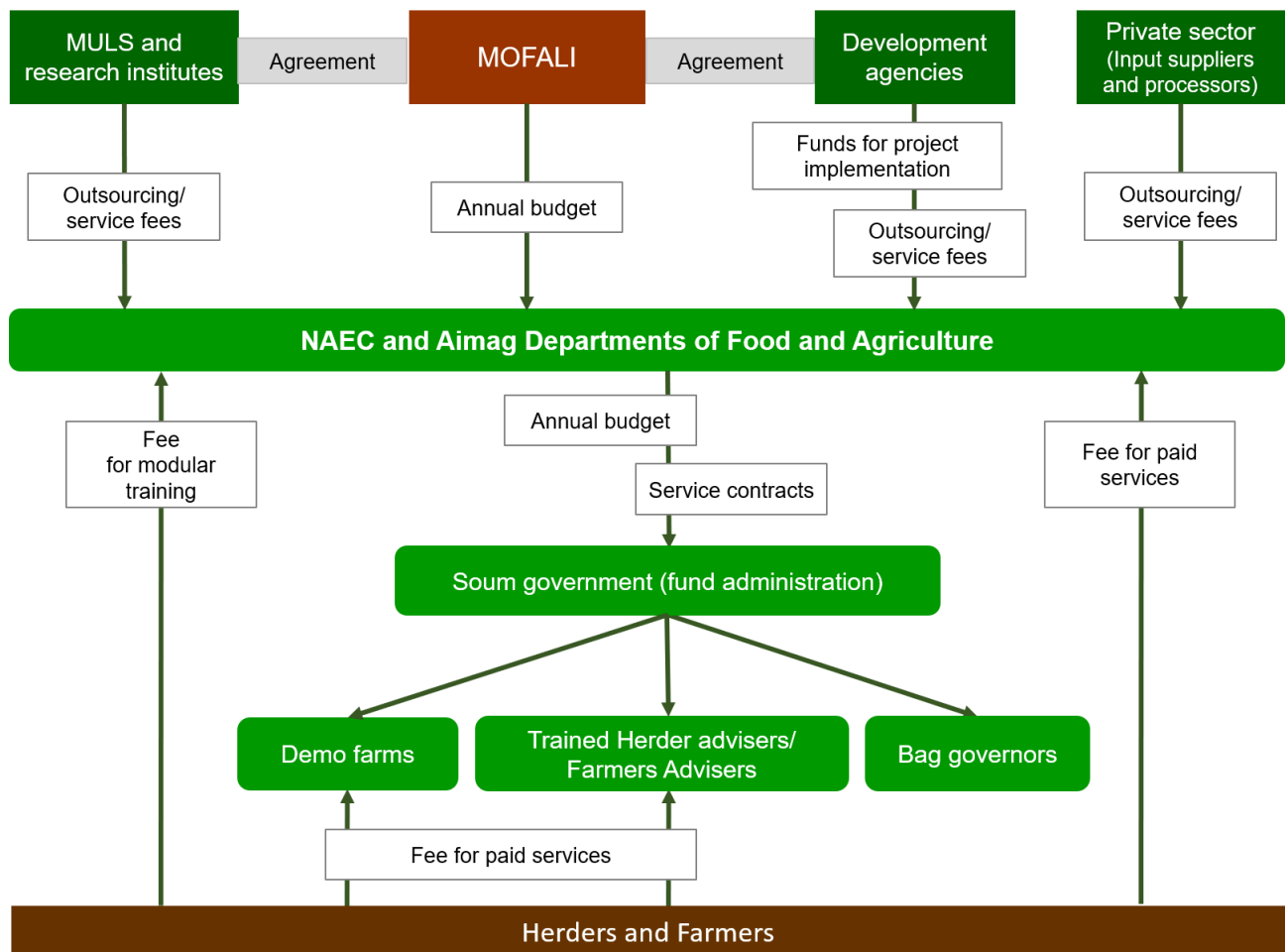


Figure 2. Structure of funding in the suggested national agricultural extension system

Input suppliers and processors are expected to outsource extension activities to the national agricultural extension system once the services delivered by the system fulfil their expectations regarding professionalism, coverage and efficiency.

Herders and farmers should be required to pay a full or partial fee for certain services. Specifically, formal training offered by ADFAs should be fully financed by the tuition fees of the participants. For mentoring, we recommend a partial public funding, thus a partial fee. The amount of the fee to be paid by the mentee shall be based on a fixed rate and can be also covered by the labour input of the mentee if the latter lives at the mentor's farm and helps with farm work. Finally, NAEC, ADFAs, demonstration farms and herder/farmers advisers should be allowed to charge full or partial fees for advisory services that lie beyond the scope of their regular services, thus causing additional costs.

Policy recommendations

1. Secure funding of the national agricultural extension system

- Legislate regular provision of public funds for extension services to be delivered by the national agricultural extension system under MOFALI's coordination.



- Secure regular provision of a part of public funds for agricultural R&D and donor funds for development projects to the national agricultural extension system through agreements of the relevant actors with MOFALI.
- Invest in training and e-learning facilities at NAEC and ADFAs.

2. Introduce enabling regulatory framework

- Legislate the status of NAEC as the head organisation of the national agricultural extension system and the coordinating and operational functions of the ADFAs and soum governments in the system.
- Add regular delivery of information to local farmers and herders and facilitation of periodical exchange meetings to the responsibilities defined in the “Terms of Employment” of bag governors.
- Entitle the ADFAs to conducting formal modular training of herders and farmers, which is measured in credit-hours and leads toward certification that is attached to certain benefits, including deduction of the credit-hours completed from a degree program at an academic institution.
- Legislate “demonstration farms” as implementing actors in the national agricultural extension system, and introduce regulations about the requirements, entitlements and responsibilities of demonstration farms as well as provision of public funds for extension activities performed at demonstration farms.
- Legislate “herder advisers” and “farmer advisers” as implementing actors in the national agricultural extension system, and introduce regulations about the requirements, entitlements and responsibilities of herder/farmer advisers as well as provision of public funds for extension activities performed by herder/farmers advisors.

The recommended regulations concerning demonstration farms and herder/farmer advisers should be based on a feasibility study that should define, among others, the required number, types and locations of these actors in each aimag.

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