

The Asian Grain Legumes Network (AGLN) Model

D.G. Faris, C.L.L. Gowda, and D. McDonald¹.

Abstract

The Asian Grain Legumes Network (AGLN) deals with chickpea and provides an example for forming other chickpea networks. The AGLN was established in 1986 to strengthen research in Asian countries on chickpea, pigeonpea, and groundnut, to generate appropriate technology by more effectively using existing staff and facilities, and to coordinate and facilitate collaborative research activities on these crops to help farmers increase their legume production. The structure and operation of the network is founded on five components: membership, research, coordination, communication, and assets. The network has two elements: bilateral and multilateral links. The bilateral element is based on memoranda of understanding between ICRISAT and each of 11 AGLN countries, and on work plans detailing specific activities. The national AGLN coordinator is the administrative link between each national program and the AGLN Coordination Unit (supported by ICRISAT). The multilateral element provides links between AGLN members in all network groups including those in national programs, several regional and international institutes, donors, and mentor institutions. The linking activities include meetings, workshops, monitoring tours, regular and special training at ICRISAT and in-country, special projects and working groups, an information bank, and literature services. Overall the AGLN provides a structure to facilitate interchange and cooperation among grain legume scientists in Asia, provides scientific backstopping, acts as a clearing house for information and material, and helps strengthen national programs.

Résumé

Modèle du Réseau asiatique sur les légumineuses à grains : Le Réseau asiatique sur les légumineuses à grains (AGLN) traite du pois chiche et présente un exemple pour la réalisation d'autres réseaux sur le pois chiche. L'AGLN a été établi en 1986 pour renforcer les recherches dans les pays d'Asie sur le pois chiche, le pois d'Angole et l'arachide, pour mettre au point une technologie appropriée en utilisant plus efficacement le personnel et les moyens d'action existants et pour coordonner et faciliter des activités de recherche collaborative sur ces cultures afin d'aider les cultivateurs à accroître leur production de légumineuses. La structure et l'opération du réseau se base sur cinq composants : les membres, la recherche, la coordination, la communication et les biens. Le réseau a deux éléments : des liens bilatéraux et multilatéraux. L'élément bilatéral est basé sur des protocoles d'accord entre l'ICRISAT et chacun des onze pays de l'AGLN, ainsi que sur des plans de travail détaillant des activités spécifiques. Le coordinateur national de l'AGLN est le lien administratif entre chaque programme national et l'Unité de coordination d'AGLN (appuyée par l'ICRISAT). L'élément multilatéral assure des liens entre les membres de l'AGLN dans tous les groupes de réseaux, y

1. Principal Coordinator, and Senior Plant Breeder, Asian Grain Legumes Network (AGLN), and Program Leader (Acting), Legumes Program, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Andhra Pradesh 502 324, India.

compris ceux des programmes nationaux, de plusieurs instituts régionaux et internationaux, des bailleurs de fonds et des institutions-guides. Les activités de liens comprennent des réunions, des ateliers, des tournées d'observation, des formations régulières et spéciales à l'ICRISAT et dans le pays concerné, des projets spéciaux, des groupes de travail, une banque d'informations et des services de documentation. Dans l'ensemble, l'AGLN fournit une structure pour faciliter les échanges et la coopération entre les chercheurs des légumineuses à grains en Asie, assure la surveillance scientifique, joue le rôle de bureau central pour des informations et des matériels et contribue à aider à renforcer les programmes nationaux.

In their presentation at this workshop on effective research networking Drs Smith, Plucknett, and Ozgediz described the value of agricultural research networks (ARNETs) and reviewed fourteen principles for effective networks. They also outlined several types of networks each set up to meet a certain need. Our purpose is to describe one example of an ARNET model, the Asian Grain Legumes Network (AGLN), which has been set up in part to meet the research needs of chickpea scientists in Asia. Although most of the AGLN activities described do not refer directly to chickpea by name, many of them do include chickpea as it is one of the crops covered by the network. The AGLN model may also give ideas of how other chickpea networks might be organized.

Founding

In 1983 a consultative group meeting at ICRISAT, attended by legume scientists from several Asian countries, and representatives from regional donor agencies, identified the major constraints to the production of groundnut, chickpea, and pigeonpea in Asia, and the priority research needed to overcome those constraints (ICRISAT 1984). With these needs in mind the group endorsed ICRISAT's concept of an Asian Regional Legume Program. At the follow-up review and planning meeting in 1985, ICRISAT's Director General announced the appointment of a coordinator for what since late 1986 has been called the Asian Grain Legumes Network. ICRISAT agreed to supply a network coordinator and the AGLN Coordination Unit was located at ICRISAT Center. This meeting also recommended a general plan of action and a list of specific activities to be undertaken by the Coordinator (ICRISAT 1987). The AGLN has been structured and has developed activities based on the recommendations of the above two meetings.

Objectives

The general objectives of AGLN were similar to those spelled out by network coordinators who met in Nairobi in May 1988 (Faris and Ker 1988). These are to:

- strengthen the applied research capability of National Agricultural Research Systems (NARS) to identify, address, and solve farmers' problems;
- generate appropriate technology by more effectively utilizing existing research personnel, facilities, and other resources;
- ensure stability of agricultural production through a responsive research capability; and
- provide the support, both technical and financial, required to facilitate the coordination of activities on a regional basis.

The specific objectives of the AGLN when it was set up were to:

- produce a directory of AGLN cooperators;
- operate an information bank for the cooperators;
- identify adapted grain legume lines and the appropriate agronomy for their cultivation in each AGLN country;
- promote training of legume scientists from AGLN countries; and
- foster special research support projects.

As pointed out in the Smith et al. presentation in this workshop a clear objective is essential for a network to succeed. These objectives are now being refined as recommended by the recent legumes network coordinators' meeting (ICRISAT 1989b).

Structure and Operation

The structure and operation of the AGLN is founded on the five components incorporated in most ARNETs: membership, research, coordination, communication, and assets (Faris and Gowda 1989). The structure and

operation of the AGLN can also be divided into bilateral and multilateral elements.

Bilateral Element

The bilateral element is founded on strong links between ICRISAT and national program scientists based on a formal memorandum of understanding (MOU) with each AGLN country. These MOUs lay out the areas of research collaboration on ICRISAT's mandate crops and such matters as the movement of scientists and seed material, the import of equipment, and the release of information and varieties. By the end of 1989 there will be a signed MOU with 11 major AGLN countries: Bangladesh, India, Myanmar, Nepal, Pakistan, and Sri Lanka in South Asia; and the People's Republic of China, Indonesia, the Philippines, Thailand, and Vietnam in East and Southeast Asia. The AGLN also works with other countries of Asia when its assistance is requested.

Collaborative work plans for each country have been developed as part of each memorandum of understanding. Usually, these are developed at a review and planning meeting or at other related meetings held in the country concerned. They set out the specific commitments of AGLN/ICRISAT and the country.

The country-AGLN coordinators are the administrative contact persons in each member country with the AGLN Coordination Unit based at ICRISAT Center. Decentralizing the responsibility for network operations within each country increases the overall effectiveness of the coordination in the network.

An integral part of the AGLN's bilateral element is its interaction with donors, and international, regional, and mentor institutes, which was a major recommendation of the 1985 meeting (ICRISAT 1987). The Coordination Unit has found contacts and joint activities with this group to be very fruitful. We shall describe some of these later.

Multilateral Element

The multilateral element of the AGLN comes from the many network activities that link network members with each other. These activities include the network coordinators' meetings (ICRISAT 1989b), workshops, monitoring tours, working groups (ICRISAT 1988a), scientists' meets (ICRISAT 1989a), and training to name but a few. Donor, regional, and international institute groups are also very much part of the multilateral element of the AGLN. The multilateral activities will be discussed in more detail in the progress section below.

The Coordination Unit consists of a network coordinator, a breeder, and a secretary. The Unit receives guidance from an Advisory Committee at ICRISAT, scientists and administrators at the review and work plan meetings in each country, country-AGLN coordinators, workshop recommendations (ICRISAT 1984, 1987), network coordinators' meetings (ICRISAT 1989b), and from other sources.

The main mode of action of the Coordination Unit is to facilitate contacts between legume scientists in AGLN countries and those at ICRISAT Center. The scientifically productive contact is directly between scientists, and after the initial contact the involvement of the Coordination Unit becomes secondary. New initiatives are now relatively easy to launch because the contacts and agreements with each country have already been made.

Funding

ICRISAT supports the Coordination Unit and provides funds for ICRISAT scientists to visit AGLN countries, and for the training of scientists from AGLN countries. The value of a small external funding is demonstrated by the large number of activities and additional research that have been made possible in South Asian countries by a grant from the Asian Development Bank (ADB). This grant was for the strengthening of legume research programs in Bangladesh, Myanmar, Nepal, and Sri Lanka. Similarly, money made available by the Australian International Development Assistance Bureau (AIDAB) has resulted in several important research activities in Indonesia on peanut stripe virus (PStV), and in Thailand on pigeonpea. More recently donors have shown interest in supporting projects in association with the AGLN. This aspect is expected to expand.

Progress

The AGLN's objectives are a good basis on which to evaluate the network's progress. The degree to which the recommendations of the 1983 and 1985 meetings have been met also forms a good measure of progress. This present progress report provides in addition a good framework for a description of the networks activities.

AGLN Directory

Almost 500 scientists have responded to the invitation to become a cooperator in the AGLN. Their names

have been entered in a database, and the first edition of the directory, giving names and addresses, should be available soon. Later editions will list the crop(s) and discipline(s) of each cooperator.

Information Bank

Information from ICRISAT is available to network cooperators through the Information Services, Legumes Program and the library, which operates the Semi-Arid Tropical Crops Information Service (SATCRIS) (ICRISAT 1988b). Of direct interest to the group is the International Chickpea Newsletter, and the joint CABI/ICRISAT CAB Prompts Series on Chickpea.

The AGLN Coordination Unit has collected pamphlets, books, reports, and maps from each country and these are being cataloged. In addition, unpublished information about each country is collected by the Coordination Unit staff when traveling. A management information system called AGLNIS is currently being developed by ICRISAT's Computer Services to allow easy access to this information. Apart from handling information from trip reports, AGLNIS will help in correspondence, as it is linked with the AGLN Directory, and in the production of progress reports for distribution to AGLN cooperators.

ICRISAT Material

Trials containing advanced generation material have been made available to network cooperators directly through scientists in ICRISAT's Legumes Program, who are also AGLN cooperators. Special attempts are made to visit all trials, and to review all results at annual planning meetings. The results are published in the various reports distributed by ICRISAT. Details of these trials and results on chickpea in Asia are reported elsewhere in this workshop. The network can also act to facilitate movement of material among AGLN countries.

Training

Training has both a linking and improvement component. The Coordination Unit has facilitated and helped to support:

- Trainees in regular ICRISAT courses.
- Special courses such as virus identification, integrated pest management, and legume utilization.

Many of these have been made possible by special grants from donors such as the Food and Agriculture Organization (FAO), International Development Research Centre (IDRC), Peanut Collaborative Research Support Program (Peanut-CRSP), and ADB.

- In-country training courses on chickpea, pigeonpea, groundnut, mung bean, and lentil given by local national and scientists from other national programs and scientists from ICRISAT, Asian Vegetable Research and Development Center (AVRDC), and International Centre for Agricultural Research in the Dry Areas (ICARDA) and financed by the ADB through the AGLN.
- In-country courses on integrated pest management, given in Thailand and Indonesia by local, Australian Centre for International Agricultural Research (ACIAR), and ICRISAT staff.
- The agroclimatology workshop with inputs from all AGLN countries, FAO, the International Benchmark Sites Network for Agrotechnology Transfer (IBSNAT), IRRI, the Resource Management Program (RMP) at ICRISAT, the AGLN itself, and local geography and cartography consultants (Virmani et al. 1990). This and similar workshops provide a training component but also enable scientists to use and analyze their own data to put forward a joint publication.

Special Research Projects

Most of the AGLN's special projects arise from specific recommendations of the 1985 meeting. An example is the Peanut Stripe Virus Working Group (ICRISAT 1988a), which shows how inputs from many groups can be used to tackle a common problem. Others have developed more recently for example the Sri Lanka Pigeonpea Production Project given below.

Pigeonpea Production Project

The Pigeonpea Production Project was started because Sri Lanka needed to produce pigeonpea to replace the US\$ 45 million dhal import. It deals with the whole sequence of pigeonpea production and utilization. This project will provide the production technology needed to make pigeonpea available at an economic price to consumers in Sri Lanka and to strengthen the research structure to support this technology. Previous attempts to extend pigeonpea production apparently failed because of insect devastation, and lack of a dhal-making

infrastructure. The steps in this project involve interaction between Sri Lanka and ICRISAT AGLN scientists to provide:

- an agro-economic intelligence survey to guide the project;
- establishment of best approach to develop a dhal-making infrastructure;
- demonstration of existing pigeonpea production technology in conjunction with dhal production; and
- collaboration between an ICRISAT and a Sri Lankan pigeonpea scientist to upgrade pigeonpea research in Sri Lanka to identify and answer pressing production problems.

Other Activities

Other activities that illustrate the AGLN's collaboration with national programs and other organizations include:

- A groundnut scientists' meeting held in 1988 in Indonesia (ICRISAT 1989a) and a chickpea scientists' meeting held in 1986 in Pakistan.
- Nepal/IRRI/ICRISAT monitoring tour and workshop on the improvement of chickpea, pigeonpea, and other pulses, held in 1989.
- Transfer of an ICRISAT chickpea scientist to Nepal for one year and transfer of Nepal chickpea scientists to ICRISAT to analyze and interpret trial results.
- Collaboration with the ACIAR pigeonpea projects in Thailand and Indonesia, and with the groundnut project in Indonesia.
- The analysis of pigeonpea production data and the development of a pigeonpea growth model by ACIAR staff working partly at ICRISAT.
- Participation of AGLN Coordination Unit in planning for the Southeast Asia Regional Food Legume Steering Committee, Asian Rice Farming Systems Network (ARFSN) Working Group, and FAO's RAS 82/002 Coordination Committee.

These are only some examples of the initiatives with which the AGLN has been associated.

Conclusion

The AGLN has been presented as a model partly because it includes networking activities on chickpeas in Asia but also because its structure, operation, and philosophy may serve as an example for participants at this workshop wishing to start a chickpea research

network. Basically the AGLN model is designed to facilitate links among grain legume scientists in Asia by determining the problems and needs of these scientists, encouraging collaborative research and sharing of material to meet these problems, supporting activities to bring the scientists together to share ideas and information, and to backstop research needs of the members.

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