

# Increasing access to agricultural extension and advisory services: How effective are new approaches in reaching women farmers in rural areas?



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# Increasing access to agricultural extension and advisory services: How effective are new approaches in reaching women farmers in rural areas?

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# Abstract

**Background:** In many developing countries, rural populations are heavily dependent on agriculture as well as different social services for their livelihoods. Yet access to adequate knowledge, improved technologies, financial services and other relevant social services remains a critical issue.

**Objective:** This paper reviews selected approaches to agricultural extension and advisory services (EAS) and particularly discusses the effectiveness of EAS delivery processes for reaching poor women and men farmers on an equal basis.

**Observations:** A wide range of traditional and reformed EAS delivery systems have been tried in many developing countries, but very little has been achieved in systematically considering a gender perspective in the provision of agricultural advisory services. Innovative models focusing on best-fit gender approaches provide opportunities to better tailor EAS to groups with specific priorities and needs.

**Conclusions:** Women, more than men, are exposed to a range of challenges that prevent them from accessing EAS. Innovative EAS models have primarily focused on supporting rural women farmers' access to agricultural extension services, through a variety of mechanisms, but they have not been scaled for significant impact.

**Recommendations:** This paper points to the need for implementing innovative practices based on a gender-equitable approach to rural service delivery which should apply at the farmer, provider and policy levels to reduce gender gaps in accessing agricultural advisory services.

**Keywords:** agricultural extension, delivery systems, gender

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# Introduction

In many rural settings, access to adequate knowledge, improved technology, financial services and other relevant social services (e.g. drinking water, education and health services) remain a critical issue. There are still significant challenges in providing extension and advisory services (EAS) in these areas. These range from insufficient funds for supporting public extension, poor resourcing, disorganized structures resulting in poor infrastructure for attracting businesses, limited involvement of rural farmers and populations in extension processes to the lack of appropriate strategies for effective research and adequate extension methods. Limited coverage of extension services across rural regions and challenges in adapting technology packages to community-specific contexts have also been highlighted as critical issues in the delivery of EAS (IFPRI–World Bank 2010).

In addition to the above mentioned challenges, it has also been documented that delivery of EAS has not equally benefited men and women farmers in rural areas. A recent study in India, Ghana and Ethiopia revealed important gender gaps in access to agricultural extension in these regions due mainly to the limited participation of female farmers in extension-related meetings and the lack of incentives for reaching these female farmers (IFPRI–World Bank 2010). Other studies have also stressed that EAS provision in the agricultural sector has been more often biased against rural women farmers as they often lack access and control over productive resources and technologies that are affordable and appropriate to their needs (Quisumbing and Pandolfelli 2009; Swanson and Rajalahti 2010).

Moreover, very few strategies and good practices have been implemented, and the policy debate on EAS delivery has not fully concentrated on addressing rural population needs from a gender perspective. To overcome these challenges, there have been reforms in the existing EAS systems and an array of innovative practices developed to continuously empower rural populations, with an attempt in ensuring that women and disadvantaged groups can fully benefit from rural EAS delivery systems.

Though several initiatives are currently underway to improve rural EAS delivery with a focus on gender equity and social inclusion, case studies related to such approaches are not always documented. Such information is, however, critical to assess the efficiency, effectiveness and performance of various EAS approaches in order to strengthen EAS methods that improve rural livelihoods. This paper reviews development in EAS approaches and discusses the effectiveness of innovative practices that provide agricultural advisory services to marginalized groups (rural women farmers and the poor). The intent is to identify promising approaches that allow all voices to be heard, their needs and priorities identified, and thus, influence policy deliberations on the access and appropriateness of rural services delivered.

# 1 Why are extension and advisory services important to rural women?

Agricultural extension and advisory services (EAS) can be defined as systems and mechanisms designed to build and strengthen the capacity of rural farmers and other stakeholders. This is accomplished by providing access to information and technologies but also by enhancing agricultural skills and practices, capacity to innovate, and address varied rural development challenges through training programs, improved management and organizational techniques (Birner et al. 2009; Christoplos 2010). EAS plays a critical role in facilitating linkages with farmer-based organizations and other relevant actors (such as government agencies, private sector and non-governmental organizations (NGOs), research institutes and education centres) in the EAS delivery process (Davis and Heemskerk 2012). These services also contribute to agricultural sustainability, livelihood improvement and well-being of populations in rural areas (GFRAS 2010; Meizen-Dick et al. 2012).

Rural women have multiple roles, including being mothers, housekeepers and caregivers. However, it is within their role as small-scale farmers that they are heavily dependent on the provision of EAS and other basic services (such as education, health care, water and sanitation) to decrease domestic workloads (UNDP and UNIFEM 2009). Ultimately, increasing their agricultural production and engaging in income-generating agricultural activities could improve the quality of their livelihoods, thus the need for effective EAS services. The delivery of EAS is therefore essential to ensure that rural population groups, particularly women farmers are equally recognized as key stakeholders, having their needs met and socio-economic concerns properly addressed. This calls for a gender-sensitive approach to agricultural EAS that contributes to the goal of promoting gender equality as a component of poverty alleviation in rural settings.

While the need for a gender-sensitive approach to EAS delivery is increasingly recognized, the challenge of how women farmers' access and benefit from agricultural advisory services along the value chain remains. A wide range of agricultural EAS approaches have been tried in many developing countries, but very little has been achieved with regard to systematically considering a gender perspective in the provision of agricultural advisory services. Therefore, the success of any EAS delivery process will depend largely on approaches and strategies being promoted for reaching women and men farmers on an equal basis.

## 2 Trends and developments in EAS delivery approaches

Agricultural EAS approaches have evolved considerably over the years. There has been a shift from the traditional government-led approaches to a variety of reformed EAS delivery systems.

### 2.1 Government-led approaches

Introduced in many developing countries during the post-independence period, these approaches focused on public extension service provision. The role played by governments was central in shaping EAS delivery processes in line with national development goals such as poverty reduction, sustainable agriculture and natural resource management. Most public EAS approaches have mainly built on the Training and Visit (T&V) model designed for training extension agents on technical skills to be passed on to the farmers using on-farm demonstrations, farmer field days and in-service training courses (Benor et al. 1984).

The T&V system is believed to have achieved some positive results in a relatively short period of time (Gautam 2000). However in the long run, the model has not proven to be effective and sustainable due to its rigidity, top-down orientation, high operational costs and lack of recurrent funding. The passive role allocated to the farmers, together with the non-responsiveness to farmers' needs and the failure to factor in country-specific economic, social and institutional contexts also contribute to its failure (Anderson et al. 2006; Birner et al. 2009). On the whole, providing agricultural EAS using exclusively public sector approaches remains debatable in many developing countries that are characterized by limited budgets to adequately support public agricultural extension, persistent weaknesses in the governance mechanisms and ineffective management and information systems for getting consistent feedback from the farmers and other stakeholders at the grassroots level (Ponniah et al. 2008).

### 2.2 Road to reformed EAS delivery systems

Recent decades have witnessed a continuous evolution towards more sustainable approaches to agricultural and rural service provision. These range from demand-driven systems, decentralized to pluralistic extension approaches (Chapman and Tripp 2003; Rivera and Alex 2004a, b, c; Parkinson 2009).

With the multiple pitfalls of the public sector EAS models, it has been advocated for more demand-driven EAS delivery systems tailored to the farmers' specific needs and demands (Swanson and Rajalahti 2010). These approaches primarily aim at promoting farmers' contributions to the EAS delivery process. One of the first steps towards an active participation of rural farmers was the introduction of the Farmer First (FF) approach. The main purpose of this model was the empowerment of farmers through diverse participatory activities, ranging from analysis of farmer needs, selection of agricultural practices and technologies to experimentation by farmers (Chambers et al. 1989). Other participatory extension approaches (e.g. farmer to farmer, farmer field schools,

farmer livestock schools etc.) have also emerged using different methodologies but still based on the common principles of participatory models. Stakeholder roles in this approach differ from the traditional T&V approach. Farmers are the main actors and beneficiaries in the delivery process and should be able to select best practices through experimental learning processes. Extension agents should mainly facilitate the process by supporting and coordinating knowledge acquisition. The overall process is guided by the interaction between farmers and their social structures. Agricultural EAS are certainly vital for achieving changes in rural poor livelihoods but there is also a need to consider incentives for change as a function of socio-cultural, economic, political and environmental factors (Hagmann et al. 1999).

Other reforms have included decentralization and privatization of rural agricultural service delivery systems. The major trend has been the transfer of specific decision-making functions to the district and county administrations (Swanson 2008). Increasingly, the role played by local governments is an important move towards successful implementation of EAS delivery methods. With their comparative advantage in accessing farmers' needs, local organizations are in a better position to understand and suggest tailored extension activities to suit local conditions and needs. The involvement of local governments in agricultural extension activities has also brought opportunities for promoting publicly-funded but privately delivered EAS systems (Ramirez and Lee 2007; Swanson 2008). This has paved the way for possible outsourcing of EAS delivery to NGOs, farmer-based organizations (FBOs) and private firms by enhancing the effectiveness of agricultural extension activities through the creation of a competitive environment (Rivera and Ziip 2002; Chapman and Tripp 2003).

Increasingly, there has been a multiplicity of non-state actors actively involved in the EAS delivery systems process. While their scope of activities differs in terms of clientele, quality and nature of the EAS provision; NGOs, private sector organizations and FBOs have emerged as key service providers. They have done this by organizing farmer groups, linking them to markets and improving EAS delivery systems through the implementation of demand-driven approaches (Hasan et al. 2013). Despite the increasing number of actors offering diversified options for EAS delivery systems, substantial challenges remain in terms of harnessing the full potential of pluralistic agricultural extension systems (Christoplos 2010). For instance, NGOs and FBOs are often constrained by limited capacity and heavy dependence on external support (Bwana et al. 2011), and the assistance provided by private companies is often targeted to relatively well-off farmers dealing with high-value agricultural commodities, thus leaving behind rural poor farmers who cannot afford the services (Ramirez and Lee 2007; IPI 2010). This underlines the critical role that government agencies should continuously play in terms of regulating and effectively coordinating pluralistic extension systems (Rivera and Alex, 2004d).

### 3 Gender gaps in EAS delivery orientations

In an attempt to devise more appropriate approaches, several EAS models have been implemented that involve not only government agencies but also private sector firms, civil society and grassroots organizations. However, significant knowledge gaps remain regarding how these approaches have effectively supported and promoted equal opportunities for rural people and particularly poor female farmers in rural areas.

At the level of national governments, the potential of public extension delivery systems to reach women farmers is not fully achieved. Many governments have failed in their obligations to ensure that services are delivered effectively to disadvantaged groups and particularly to rural women (UNDP and UNIFEM 2009). One reason for this is the socio-cultural bias which has often hindered women's active participation in farmer training centres, extension meetings and most importantly, access to agricultural inputs (e.g. fertilizers), services and economic resources such as credit (Jiggins et al. 1997). As an illustration, the T&V approach underscored the selection of contact farmers as a mechanism for passing on information to other farmers based in the same area. However, as reported in a Tanzanian case study by Aarnink and Kingma (1991), most of the recommended criteria for selecting the contact farmers (e.g. education/literacy, title to land, farmer's association membership) were largely biased against female rural farmers. Further, issues were raised in the majority of developing countries about EAS being predominantly staffed by men, which has resulted in systematic exclusion of women farmers and female-headed households from direct access to many forms of agricultural advisory services.

With the surge of reformed EAS delivery systems, the situation has not really improved. Very little is known and documented on how extension services reforms have mainstreamed gender concerns and whether there is clear impact of these reforms in reaching the most vulnerable segments of rural populations. It has been reported that pluralistic extension services have hardly targeted women farmers as many advisory services programs tend to be mostly concentrated on productive activities dominated by rural men farmers (Jiggins et al. 1997; Swanson and Rajalahti 2010). However, with regard to the implementation of demand-driven and participatory approaches, some success stories were registered with strategies used in agricultural extension (see example of Zimbabwe in Hagmann et al. 1998). With the lack of a gender sensitive approach to service delivery, challenges still impede the implementation of market-led and participatory EAS systems. Many systems have put a greater emphasis on promoting various agricultural extension projects without understanding the practical and cultural obstacles that prevent women from accessing the most needed services. This has largely resulted in women's unequal access to EAS in rural locations. Consequently, the need for EAS delivery systems focused on best-fit approaches has been underlined as they provide an opportunity for adapting EAS to different population groups with specific priorities and needs (Manfre et al. 2013).

## 4 Emerging good practices for improving EAS delivery systems

Various initiatives have emerged as good practice within different agricultural EAS delivery systems that focus on both male and female farmers' needs as the core of the advisory function. Innovations such as farmer groups focusing on rural resource centres, networking and marketing systems, volunteer advisory services programs and ICT-based approaches offer great promise in integrating a gender sensitive perspective into EAS delivery systems.

### 4.1 Promoting gender-sensitive agricultural EAS systems through farmer group approaches

In Tanzania, the Farmer-to-Farmer extension developed by the Farmers' Groups Network (MVIWATA) has promoted women's participation in networking and decision-making processes. The approach underscored the multifaceted nature of farmers' issues and the need for empowering farmers through their direct involvement, while identifying priority problems and testing out practical solutions identified by researchers and the farmer groups (Mattee and Lassalle 1994). Farmer groups are characterized by their diversity as they included not only separate women and men farmer groups, but also mixed groups which worked closely with field officers to disseminate different agricultural innovations and practices. The approach used by MVIWATA was successful in many ways, notably in bringing together female and male farmers on issues of common interest (for instance, crop production and farm management), and enhancing communication and building social solidarity among the farmers. It was also documented that farmers' groups acted as the guarantor to enable male and female members to gain access to credit facilities (Mattee and Lassalle 1994). Another success factor of this Farmer-to-Farmer extension model was the possibility for MVIWATA to link and partner with other organizations such as the Pan-Africa network and FAM-Africa (Farmers, Agriculture and Modernization in Africa) which expanded its outreach. However, the model presented various challenges in its implementation. The main challenges highlighted by Kaburire and Ruvuga (2006) included:

- Misconceptions by poor farmers of the effective role played by MVIWATA as they often expected rural services (e.g. facilities to getting loans from governments and NGOs) beyond the scope of sharing activities among farmers and access to training opportunities supplied by the MVIWATA Network;
- Conflicts identified among steering committees and farmers' groups related to major farmers priorities and needs while designing EAS strategies;
- Difficulties in reaching targeted farmers in a timely manner due to poor communication infrastructure for the farmer-to-farmer dissemination of information.

The Women in Agriculture (WIA) Extension Program in Nigeria also built on a farmer group approach. As female farmers' contribution was largely underestimated in different agricultural development strategies (ADPs), the WIA program was developed to improve access to EAS for women farmers in rural settings. In an effort to integrate a gender focus into ADPs, a WIA unit was created with trained female extension agents working directly with rural

women farmers throughout the country to identify their technical and information needs, and support them through training and technology dissemination to increase their productivity (Onyibe 2001; Odurukwe et al. 2006). WIA extension workers assisted women in establishing group farms to provide advice on marketing agricultural products, and train them on recommended agricultural technologies (e.g. processing, storage etc.). Formation of women farmers' groups facilitated the dissemination of agricultural innovations and provided them with better access to farm inputs and credit facilities. Over the years, the program has proved to be effective in incorporating female farmers' needs into national agricultural development strategies and uplifting the socio-economic wellbeing of women beneficiaries in rural areas. However, limitations of the WIA extension program were identified as follows:

- The emphasis on off-farm activities at the expense of agricultural activities such as food crop production and livestock keeping;
- Inaccessibility of the program to many female farmers in remote areas limited the adoption of WIA packages, and the involvement of women in the selection and design of technologies, resulting in lower adoption rates (Odurukwe et al. 2006).

Another recent initiative that has focused on a farmer group approach is the Self-Employed Women's Association's (SEWA) model. The model aims to empower poor and self-employed women farmers in rural India, creating more opportunities and contributing to self-reliance through inclusive women's groups. SEWA as an association provides farmers with training on technical advancement in farming, input requirements, and marketing trends. The program also provides assistance in organizing self-help groups where women farmers collectively articulate their needs and identify constraints that prevent them from accessing income generating opportunities; learning to take decisions and calculating risks associated with their decision-making process (Herbel 2010; Gale et al. 2013). SEWA's approach is innovative as it uses an integrated organizational model whereby, self-help groups collaborate closely with SEWA specialized institutions for training and communication facilities, micro-finance and insurance agencies as well as external partners to provide sustainable and accountable EAS delivery systems (Herbel 2010; Gale et al. 2013).

Various success factors have been attached to the SEWA model in terms of engaging rural women, radically improving their livelihoods, and increasing their influence at the household and community levels. Notably, the coordination of farmers' cooperatives through the SEWA cooperation federation has enabled many women farmers to reclaim large hectares of ravine lands (Herbel 2010). Furthermore, self-help initiatives promoted by the association have led to substantial positive outcomes. These include capacity-building of women farmers as individuals or collectively as groups, capacity strengthening of small-scale farmers in asset building using dense networks between self-help groups and linkages with external organizations at local, regional and national levels. SEWA's saving self-help groups help women members to own land and secure their land rights. The representative structure and weekly meetings facilitate the process of raising awareness of women's needs in the differing communities as well as women's involvement in designing appropriate strategies to meeting their needs (Gale et al. 2013).

While the SEWA approach may be criticized for its exclusive focus on rural women farmers, it has proved highly effective and was recommended for replication in other countries (Narayan et al. 2000). In this regard, the program that started in India has currently expanded its outreach operations to Sri Lanka, Pakistan and Afghanistan (Gale et al. 2013). However, the successful replication of such an approach calls for important organizational paradigm shifts to embrace gender transformative changes.

## 4.2 Delivering agricultural EAS through volunteer advisory services programs

Among volunteer models tested for improving extension service delivery, the Women Extension Volunteer (WEV) Approach in Ghana has put a great emphasis on placing female farmers at the core of the advisory service. This innovative extension approach was designed with the aim of providing affordable extension delivery systems and

increasing EAS coverage to female farmers in remote areas in Ghana. The WEV model is the result of collaborative efforts of the Ghanaian Ministry of Food and Agriculture (MOFA) and the Voluntary Service Overseas (VSO) Ghana, a non-governmental organization. The model is based on the key leadership role of the community-based female volunteers in supporting the community farmer groups through facilitation and basic training on topics discussed during WEVs regular meetings (Hird-Younger and Simpson 2013). While being a female farmer was the primary criterion for selection as a WEV, other important characteristics such as literacy, marital status, volunteer experience and innovativeness were also considered during the selection process.

The WEV model has proven innovative in addressing some issues that prevent female farmers from accessing EAS in northern Ghana. The primary benefits to female farmers included the capacity strengthening of female farmer groups through the central role that female women volunteers play as experienced agents in their communities. In addition, facilitating communications and establishing connections between female farmers and extension services providers also enhanced learning. Moreover, the objective of the WEV to supplement public extension services was achieved, as WEVs acted as community-level liaisons to increase access to extension information and services among female farmers who were traditionally underserved.

Although the WEV model has worked well in Ghana as a pilot, a number of challenges remain in relying on local female volunteers as primary intermediaries between the farmers and the EAS providers. Not only does this approach lead to inadequate and decreasing investments in EAS by governments and other EAS providers, it may also contribute to reemphasizing the gender gap in service provision. If EAS is provided for two different groups of farmers, (paid EAS services for male farmers and volunteer services targeting female farmers) there will likely be inadequate service for women.

### 4.3 Delivering agricultural EAS through information and communication technologies (ICTs)

ICT-based solutions are increasingly being advocated by extension practitioners for use in agricultural production and marketing systems. EAS are embodied in various ICT-enabled services. These range from traditional radio programs using add-on features, to television shows using short message services to request information on agricultural varieties or farming practices, to the emerging mobile technology services and internet.

Increasing use of ICTs can potentially speed up the effective dissemination of information. It also enhances the interactive functionality provided by traditional and modern ICT services (Jain et al. 2012; Agu 2013; Manfre and Nordehn 2013). ICT-based solutions are viewed as an enabling tool for EAS delivery targeting rural women farmers. In rural India, women farmers reported using ICTs for treatment of sick animals as well as accessing knowledge on the latest prices for vegetable produce (Jain et al. 2012). Rural areas in Nigeria are progressively being provided with telecentres where women farmers can access varied agricultural information using traditional means but also new applications such as e-mail, internet browsing and distance-learning tools (Agu 2013). A recent study by Manfre and Nordehn (2013) revealed the increasing women's ownership of and control over mobile phones in rural Kenya as an important contribution to increasing access to agricultural information services delivered by mobile technologies. All these success factors indicate the increased role of ICT-enabled solutions in promoting women's empowerment through their participation in information sharing and decision-making processes.

The provision of agricultural EAS using ICT-based applications offers promise as an innovative approach for enhancing agricultural productivity of rural women farmers. This is illustrated by the increasing number of public-private sector initiatives in different countries to reach rural women farmers and the poor using ICT-based agricultural services (see example of Kenya in Manfre and Nordehn 2013). Despite the above, the fact remains that in most developing countries, rural women's access to ICTs and their usage is observed to be less than men's. This is due to a range of barriers faced by rural women (e.g. low literacy levels, lower technological skills, time-consuming domestic tasks, control of the mobile phones etc.) that contribute to persistent gender imbalances in rural livelihoods.

## 5 Implementation challenges and options for engendering the EAS delivery chain

In view of the positive experience in different countries, selected innovative EAS models appear promising in supporting rural women farmers' access to agricultural outreach activities. As documented, there are substantial socio-economic benefits to be achieved by rural women farmers in improving their livelihoods through new approaches to agricultural services delivery.

However, because most models and approaches are relatively small-scale initiatives, the implementing process can be complex. Particular attention needs to be paid to how effectively gender differences are addressed with regard to the accessibility of such services by men and women smallholder farmers. The effectiveness not only depends on the utilization of agricultural advisory services by women farmers, it will also depend on the ability of extension services systems to reach out to both disadvantaged women and men farmers. Outreach for rural EAS is frequently hampered by lack of resources; human, financial and institutional. Addressing these limitations is critical to ensure the success of any EAS programme; however, implementation of a successful gender-equitable approach should engage three levels to reduce gender gaps. These include:

At the farmer level, making innovative EAS delivery systems work for rural women and men requires identification of gender-specific needs to be addressed by the EAS delivery systems. Assessing the practical, socio-economic and cultural constraints faced by rural men and women farmers is fundamental in defining these gender-specific needs. Such need assessments are critical for understanding individual roles of both men and women, particularly in voicing their unique priorities, which will influence how services are designed and delivered.

At the provider level, EAS providers play a pivotal role in delivering services as they can potentially tailor their extension programs to meet the specific needs of female and male rural clients. Since gender is frequently not considered a priority for some EAS providers, there will often need to be significant incentives to deliver gender equitable services. Transformative gender-sensitive training is essential for supporting EAS providers in their efforts to deliver equitable agricultural extension services. Including gender equity indicators in EAS providers work plans may also increase their willingness to address gender-specific issues.

Finally, at the institutional level, there is the need for an enabling environment to guide the overall orientation of agricultural and rural services delivery. Both government agencies and non-governmental institutions are central to ensuring gender equitable access to extension services with respect to the economic and sociocultural realities of the different rural communities. To achieve this, there is need for oversight mechanisms to enforce and sustain gender-related service delivery interventions. Measurement and monitoring mechanisms are equally important to improve gender-sensitive EAS delivery systems. Institutions should therefore promote collection and analysis of sex-disaggregated data and indicators to identify and monitor gender differences as well as progress towards providing equitable agricultural extension services in rural areas.

## Conclusions

Over the recent decades, significant efforts have been made to reform rural extension service delivery arrangements in many parts of the developing world. Lack of recurrent funding for supporting public extension, disorganized structures and limited coverage of extension services across rural regions are among the most pressing challenges highlighted in the literature. There is little documentation on the demand for EAS caused by the limited involvement of rural farmers, particularly marginalized women farmers. While the policy debate on EAS delivery has not fully concentrated on addressing rural population needs from a gender perspective, it remains the case that EAS innovative approaches are needed to continuously close the gender gaps in agricultural productivity.

Several initiatives and good practices for increasing access to rural EAS by women farmers have been reviewed with examples from different countries in the agricultural sector and ICT-based agricultural services. Though relatively small-scale, these examples have the potential to be widely duplicated, taking into account country-specific circumstances and social realities. However, there is still a long way to go not only in designing and implementing such innovative approaches, but also in influencing the policy debate on gender and rural advisory services.

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