International Labour Organization

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# ILO Brief

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# Enhancing Refugee and Host Community Livelihoods in Koshi Province, Nepal

## A systemic strategy for the agriculture sector[1]

***The ILO-UNHCR Approach to Inclusive Market Systems (AIMS) project, "A Systemic Approach to Strengthen Refugee and Host Community Livelihoods in Nepal", implemented a series of interventions to overcome longstanding barriers in the agriculture sector. Recognizing that limited access to land, high input costs, insufficient technical support, and lack of a commercial vision for farming had prevented many Bhutanese refugees – who often possess valuable agricultural experience as laborers or farmhands – from engaging in commercial farming, the project addressed these constraints through innovative, market-based solutions that benefit both refugees and host communities.***

### Key points

- Targeting systemic constraints in the agriculture sector, the project supported refugee and host community farmers with **land leases, access to high-quality agricultural inputs via a voucher system, commercial farming knowledge and skills, and market linkages**, leading to significant productivity and income gains.
- After conducting a comparative cost-benefit analysis of various agricultural products in consultation with key local stakeholders, the project identified **potato farming as the most promising option** for its pilot intervention.
- **15 households began cultivating potatoes for the first time on newly leased land, while 45 shifted from subsistence to commercial farming.** As a result, the average household potato production among the pilot participants rose from 207 kg to 1,237.4 kg.
- Before the project, only 3 out of the 60 households sold potatoes, despite 45 cultivating the crop. After the project, **56 additional households started selling potato in the market,** illustrating a major shift from subsistence to commercial farming.
- **Among farmers who were already earning income** from potato farming before the project, **income per Kattha of land increased by 18%,** from 6,268.0 NPR per Kattha to 7,400.0 NPR per Kattha, demonstrating the direct impact of better inputs and training on productivity.
- **Productivity per unit of land rose by 31%**, from 282 kg per Kattha to 369.5 kg per Kattha, **through better use of inputs and training in farming techniques.**
- **96.67%** of the voucher scheme beneficiaries **noticed improved productivity,** and **93.33%** expressed **willingness to continue purchasing agricultural inputs** at full price after the intervention.
- **All the participants (100%)** of farmer field schools found the **training and advisory services beneficial**.
- The **cooperative-based land lease model**, which facilitated access to 50 Kattha (16,931 $m^2$) of farmland, is now being replicated and **expanded by the Refugee Settlement Management Committee**.

[1] This brief is authored by Luisa Iachan

## Introduction

Nepal has a longstanding tradition of providing asylum to refugees. Major refugee arrivals occurred in 1959, with an influx from Tibet, and again in 1990-1991, with large-scale displacement from Bhutan. Between 2007 and 2016, approximately 113,500 Bhutanese refugees resettled in North America, Europe, and Australia[2]. However, Nepal continues to host over 7,100 Bhutanese refugees, primarily in Jhapa district, Koshi Province, where approximately 1,300 households (6,300 individuals) reside in Beldangi camp and 400 households (1,800 individuals) in Sanischare camp[3].

The refugee situation in Nepal presents complex challenges, underscoring the need for innovative, inclusive approaches to support the livelihood needs of both refugees and host communities (HC). Refugees face unique vulnerabilities, including psychological trauma, economic isolation, and protection risks. Most of them struggle with joblessness and lack of income, mirroring challenges faced by host communities. The scarcity of livelihood opportunities not only impacts daily subsistence but also contributes to broader socio-political vulnerabilities.

Traditional approaches to refugee livelihoods have focused on strengthening individual capacities (*"push"* factors, supply-side interventions), by providing skills and resources to promote self-reliance. However, relying solely on capacity-building interventions has proven unsustainable for large-scale, long-term impact. Sustainable solutions require supply-side interventions to be combined with market expansion and the creation of economic opportunities (*"pull"* factors, demand-side interventions), as well as inclusive participation from host communities.

To address this, the International Labour Organization (ILO) and the United Nations High Commissioner for Refugees (UNHCR) developed the "Approach to Inclusive Market Systems" (AIMS) in 2013[4], applying the "Making Markets Work for the Poor" framework[5]. This approach integrates both push and pull factors, engaging a broad range of market actors to create sustainable livelihood opportunities for refugees and host communities alike. Since 2020, ILO and UNHCR in Nepal have collaborated on a joint strategy, grounded in the AIMS framework, to reduce dependency on humanitarian aid and foster long-term economic empowerment.

The ILO-UNHCR AIMS project, *A Systemic Approach to Strengthen Refugee and Host Community Livelihoods in Nepal*, aimed to enhance the livelihoods of Bhutanese refugees and host community members. In 2021/2022, a market systems assessment (MSA) conducted in Koshi Province identified agricultural subsectors with strong potential for inclusive growth and employment opportunities for both Bhutanese refugees and host community members, as well as key constraints currently limiting their economic inclusion in these sectors[6]. This MSA laid the groundwork for market-based livelihood interventions piloted by the ILO-UNHCR collaboration between 2023 and 2024.

## Potato value chain interventions

Over a nine-month period in 2023, the agriculture value chain intervention in Koshi Province focused on the potato subsector to address systemic constraints affecting both refugee and host community farmers. Key issues such as limited access to land, the need for high-quality seeds and fertilizers, and deficiencies in postharvest facilities, technologies, skills, and support services were directly targeted.

A total of 60 individuals, comprising 26 refugees and 34 host community farmers (with 33 percent women), benefited from a comprehensive package that included:

- **A land leasing model**
- **A voucher scheme** providing discounted access to high-quality organic potato input, and a guaranteed off-take market for their produce

[2] UNHCR, 2023. Fact Sheet: Nepal. United Nations High Commissioner for Refugees. Available at: https://www.unhcr.org/media/nepal-factsheet

[3] Updated data provided by the United Nations High Commissioner for Refugees in December 2024.

[4] ILO, 2017. *A Guide to market-based livelihood interventions for refugees*. Available at: https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40ed_emp/%40emp_ent/%40ifp_seed/documents/instructionalmaterial/wcms_550036.pdf

[5] Springfield Centre, 2015. *The Operational Guide for the Making Markets Work for the Poor (M4P) Approach*, commissioned by DFID and SDC. Available at: https://www.enterprise-development.org/wp-content/uploads/m4pguide2015.pdf

[6] ILO, 2022. *Building Inclusive Markets for Refugees and Host Communities in Province 1, Nepal: A Market Systems Analysis of the Vegetables, Piggery and Poultry Value Chains.* Available at: https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40ed_emp/%40emp_ent/%40ifp_seed/documents/publication/wcms_859010.pdf

- **Advisory and extension services**, including farmer field school training, commercial farming and marketing skills development.

This market-based strategy engaged multiple local actors, including the Mansarowar Agriculture Cooperative, the Economic Empowerment Centre, and local agrovet shops. Further details about these initiatives are described below.

## A cooperative-based land leasing model

Land is a critical factor in agricultural production, yet refugees faced legal, financial, and social constraints to accessing farmland. There were no formal provisions allowing refugees to lease land, and host communities were often hesitant to lease their land to refugees due to a lack of trust, including concerns about informality, accountability, and broader social perceptions. With no available land inside the refugee camps and limited land outside already leased at high rates by commercial farmers, refugees struggled to engage in farm-based income-generating activities.

To break this cycle, the project piloted a cooperative-based land leasing model that addressed land access while serving as a mechanism for trust-building and social cohesion. Rather than relying on informal or bilateral lease arrangements, which had previously failed, the project partnered with Mansarowar Agriculture Cooperative, a respected and well-established local institution, to act as a neutral intermediary.

With a strong interest in sourcing more produce for increased demand in nearby towns like Damak, Itahari, and Bhadrapur, the cooperative invested in leasing 50 Kattha of farmland and allocating small plots to 26 selected refugee farmers. This institutional arrangement provided host community landowners with confidence that their land would be used productively and responsibly, while offering refugees a pathway into commercial farming. Embedding the leasing model within a trusted community organization reduced perceived risks and created space for constructive interactions between refugees and host community members.

Through this partnership:

- 50 Kattha (approximately 16,931 square meters) of farmland were leased, with close to 2 Kattha of land allocated to each of the 26 target refugee farmers.
- Farmers selection was carried out in collaboration with the Settlement Management Committee (SMC) and the Cooperative Farmers' Group, based on financial need, farming experience, and interest in commercial vegetable cultivation.
- The cooperative provided technical assistance, high-quality agricultural inputs, greenhouse tunnels with irrigation systems, and access to market linkages.

This initiative marked a major step toward enabling Bhutanese refugees to transition into commercial vegetable farming, a previously unimaginable opportunity. The cooperative-based lease model not only facilitated land access but also reassured host communities that their land was being used responsibly and productively.

Land and greenhouse tunnels leased to refugees and host community farmers © ILO/ Yugdeep Thapa

## Voucher scheme and guaranteed off-take market

One of the key findings of the MSA was that refugee and host community farmers in Koshi Province face significant barriers to accessing affordable, high-quality seeds and fertilizers. A lack of awareness among refugees and vulnerable host community farmers about seed quality and the benefits of informed input choices further exacerbates this challenge.

To address this issue, the project introduced a voucher program in partnership with the Economic Empowerment Center (EEC) and two local agrovet shops supplying inputs. The in-kind voucher system ensured that allocated resources were exclusively used to buy input for potato cultivation, preventing potential diversion to non-agricultural needs. Importantly, the voucher scheme was not designed as a one-off subsidy but as part of a long-term strategy to demonstrate the benefits of improved inputs and gradually shift farmers' practices toward more sustainable and commercial farming.

Through the voucher scheme, refugee and host community farmers could access quality organic potato seeds, bio-fertilizers, bio-insecticides, bio-pesticides, and mulching plastic at a 50% discount (40% subsidized by the project and 10% discount offered by the agrovet shops). In parallel, the EEC provided extension services to agrovet shops on marketing, voucher awareness, and service delivery, while also raising farmers' awareness about the vouchers and the benefits of using better-quality inputs.

Complementing the voucher program, the partnership with Mansarowar Agriculture Cooperative introduced a guaranteed off-take market for farmers' harvests. With its storage capacity, the cooperative can hold potatoes and sell them off-season when market prices are higher, ensuring better returns for refugee, host community farmers and the cooperative itself.


Farmer using the voucher to access discounted input from the agrovet shop in Koshi Province © ILO/ Nirmal K. Bishwokarma

## Extension and advisory services

Another key finding of the MSA was that refugee and host community farmers face limited access to technical know-how on agriculture techniques and lack a commercial vision for their farming activities. To address this issue, Mansarowar Agriculture Cooperative and the Economic Empowerment Center joined forces to deliver comprehensive training on better farming techniques, covering soil health and management, seed quality and selection, planting, fertilizer application, pest control, and prevention, and water management. They also provided advisory support on commercial vegetable farming and marketing. After the harvesting period, they facilitated market linkages by connecting farmers with wholesalers across Koshi Province to ensure better market access and higher returns.

Participants of the farmer field school © ILO/ Yugdeep Thapa

# Main results of the potato value chain interventions

To assess the impact of interventions in the potato value chain in Koshi Province, the project conducted mixed-methods research, incorporating both quantitative and qualitative approaches. This included:

- Baseline and endline surveys with the 60 target beneficiaries participating in the interventions.
- Focus group discussions to gather insights from farmers and stakeholders.
- Key informant interviews with project partners to understand implementation challenges and successes.
- On-site observations to assess practical outcomes in the field.
- Individual case studies to capture detailed examples of personal experiences.

This approach ensured a holistic evaluation of the project's impact on farmers' income, profits, productivity, market access, commercial farming skills, and other value chain improvements.

## Production and productivity gains

By engaging 15 new households in potato farming and supporting 45 previously engaged households to shift from substance to commercial farming through access to land, improved inputs and extension services, the project increased average household potato production among beneficiaries from 207 kg to 1,237.4 kg.

Following the interventions, host community farmers averaged 1,422.4 kg per household and refugees averaged 995.2 kg. The difference between the two groups can be partially explained by the fact that refugees cultivated potatoes later and therefore faced cold waves and that they had limited access to compost manure as refugees do not rear livestock. Additionally, while host community farmers participating in the pilot produced 355 kg on average at baseline, refugees produced only 90 kg on average.

Gender-based comparisons revealed minimal differences in production levels. Female farmers produced an average of 1,244 kg, slightly more than male farmers, who produced 1,234 kg. Women reported that their more careful application of fertilizer and meticulous seed sowing contributed to their marginally higher yields.

Productivity, measured by production per unit of land, increased by 31%, rising from 282 kg per Kattha of land before the intervention to 369.5 kg by the time of endline data collection. Several factors contributed to these gains, including improved access to seeds, bio-fertilizers, bio-pesticides, bio-insecticides, mulching plastic, and skills and capacities enhancement through Farmers' Field Schools.

All the voucher recipients (100%) reported improved yield, taste, and market value of potatoes. Additionally, 96.67% noted that bio-fertilizers enhanced productivity, improved soil quality, and increased market prices. Among farmers who were already earning income from potato farming before the project, income per Kattha of land increased by 18%, further demonstrating the project's positive impact on both productivity and financial returns.

## Income increases and profits

The project interventions positioned potato farming as a key income source, particularly for refugees. By the end of the project, 98% of households (59 out of 60) reported earning income and profiting from potato production. This marked a significant shift from the baseline, where only three households had been generating income from potato sales, despite an additional 14 attempting to sell their produce in local markets and 45 households cultivating potatoes. This transformation can be associated with improved market opportunities created through the project’s intervention strategy.

Household income from potato sales increased substantially: before the project, households engaged in commercial potato farming earned an average of NPR 7,000 (USD 50), but after the interventions, this figure increased to NPR 25,274 (USD 181), with an average profit of NPR 13,000 (USD 93). When comparing refugee and host community farmers, the former reported an average income of NPR 20,995 (USD 152), resulting in an average profit of approximately NPR 9,000 (USD 65) while host community farmers earned an average of NPR 29,038 (USD 210), resulting in an average profit of NPR 17,000 (USD 122). Although income levels were higher for host community members, the increase was particularly remarkable for refugees. At baseline, refugee farmers engaged in commercial farming earned just NPR 1,500 on average from potato sales, compared to NPR 12,050 for host community farmers.

Despite averaging marginally higher production levels, female farmers earned slightly less than male farmers, with an average income of NPR 24,125 compared to NPR 25,864. Women indicated that they prioritized household consumption over sales, which influenced their overall earnings.

## Market access

Farmers successfully sold approximately 68.5% of their total production, amounting 50,880 kg out of the total 74,240 kg harvested. The remaining 31.5% was either stored for off-season sales at higher prices or reserved for household consumption. On average, host community farmers sold 996 kg per household, while refugee farmers sold 652 kg. Refugees reported prioritizing the storage of potatoes for household use, which accounted for their lower sales volume.

All households sold their produce primarily to local markets, with 57.6% of sales going to local buyers and 42.4% to camp consumers. Approximately half of the respondents identified local vendors as their second-largest buyers. Despite the availability of a guaranteed off-take market arrangement with Mansarowar Cooperative, high demand for organic potatoes in local and camp markets enabled beneficiaries to sell their produce independently at more favourable prices – while the guaranteed off-take market offered a purchase price of NPR 25 per kg, farmers were able to sell their organic potatoes at the local market for NPR 30 per kg.

### ▶ Summary of key production, productivity, income and market access outcomes

| Outcome | Indicator | Baseline Value | Endline value | Change (%) |
|---|---|---|---|---|
| Refugee and HC farmers increase income | Change in the income of households (HH) | 7,000.0 NPR per HH | 25,274.0 NPR per HH | +261% |
| Refugee and HC farmers increase production and productivity | Change in productivity of potato farming | 282.0 Kg per Kattha | 369.5 Kg per Kattha | +31% |
| | | 6,268.0 NPR per Kattha | 7,400.0 NPR per Kattha | +18% |
| | Change in production of potato farming | 207.0 Kg per HH | 1,237.4 Kg per HH | +498% |
| Refugee and HC farmers have access to reliable buyers | Change in households selling potatoes | 28% (17 out of 60) | 98.3% (59 out of 60) | 70.3% |

## Perception about skills improvement

Only 28% of the target farmers had previously participated in agricultural training. All those who had prior experience noted that the Farmers' Field School (FFS) delivered by the cooperative offered a significantly more comprehensive curriculum than earlier programs they had attended: instead of focusing only on basic agricultural techniques, the FFS training covered the entire potato farming cycle, including cultivation, harvesting, post-harvesting, and marketing.

Survey results indicated that all participating households (100%) found the training and advisory services beneficial. Refugees, in particular, emphasized the relevance of the training in enhancing their knowledge and skills in potato farming. However, some participants expressed concerns that the FFS duration was too short and that sessions were overly focused on theory rather than practical application.

### ▶ The story of a farmhand turned entrepreneur: Manisar's journey to self-reliance

For years, Manisar Magar worked as a laborer, carrying bricks and toiling in other people's fields to support his family in the Beldangi Bhutanese refugee camp. When he learned about an agricultural support initiative through the Mansarowar Cooperative, he saw an opportunity to change his future.

With support from the ILO-UNHCR collaboration, Manisar leased land and received training in modern vegetable farming techniques, covering soil preparation, composting, and the use of high-quality inputs. "We used to rely on traditional methods in our small kitchen garden, but what I've learned here is completely different," he says. Equipped with new knowledge and resources, he dedicated himself fully to his farm.

His hard work has been paying off. By November 2024, Manisar had earned NPR 133,000 from vegetable sales, allowing him to upgrade his family's bamboo hut with cement flooring and sturdier walls. In addition to receiving market access support, he secured a direct link with a wholesaler who now buys his entire potato harvest, guaranteeing steady sales. He also sells vegetables on his way home, which is sold out before he reaches his doorstep. "I'm known as the vegetable guy," he says with a proud smile.

For Manisar, vegetable farming is more than a source of income – it has given him financial stability, self-reliance, and a renewed sense of purpose. "I never imagined I would have land of my own to farm. Now, all the work I put in is for myself."

Manisar Magar on his way home after selling his potato harvest and vegetable bags in the local market © ILO/ Yugdeep Thapa

## Sustainability of the interventions

Survey results showed that 90% of participants were very satisfied with the agricultural inputs provided through the voucher scheme, and the remaining 10% expressed satisfaction. Promisingly, 93.33% of beneficiaries indicated a willingness to continue purchasing these inputs at full price after the program ends, suggesting a lasting shift in purchasing behaviour and recognition of the value of high-quality agricultural inputs.

The incentive-based intervention model, which engaged cooperatives, agrovet shops, and farmers, has proven beneficial to all actors involved. The voucher system allowed farmers to access high-quality agricultural inputs, while agrovet shops benefited from an expanded customer base, reporting a 10% increase in new buyers. Because these shops now see that informing and training farmers directly translates into more sales, they have an incentive to continue providing advice and promoting improved inputs. Additionally, the cooperative also indicated having experienced growth in their clientele, further reinforcing the sustainability of the approach. With a clear interest in sourcing larger volumes of produce to sell off-season at higher margins, the cooperative has continued to invest in refugees through land leasing and training, ensuring a steady supply base while strengthening trust with host communities.

This dynamic means that all actors – farmers, the cooperative, and agrovets – benefit from the scheme. Farmers now recognize that leasing land and buying quality inputs is profitable; agrovets expand their business by reaching new customers; and the cooperative secures more produce to market. In effect, the project facilitated a systemic change in behaviour, aligning commercial incentives across the chain and creating the conditions for long-term sustainability.

As a positive spillover effect, the project's initiative stimulated engagement from other private sector actors. In particular, the Apex Biotec Research Center initiated a partnership with Mansarowar Agriculture Cooperative to ensure a consistent supply of virus-free potato seeds, contributing to long-term improvements in seed quality.

In addition, mechanization has enhanced sustainability by providing 20 mini-tillers for refugee and host community farmers, proving particularly beneficial for refugees cultivating small plots within the camp, where larger tractors are not permitted. Managed by Mansarowar Cooperative, the tillers are rented at affordable rates, generating NPR 30,000 in revenue during the year and benefiting over 200 additional households. Growing demand has led the cooperative to invest in two large tractors and three additional mini-tillers.

Manisar Magar, bhutanese refugee farmer using a mini tiller managed by the cooperative © ILO/ Yugdeep Thapa

### ▶ Land leasing model replication and expansion

The success of the land lease model has not only created sustainable income opportunities but also strengthened trust between refugees and host communities. As the manager of an agrovet shop noted: "People have now clearly seen the success of these vegetable farms. Some farmers have earned over 1 lakh rupees (approximately USD 725) within just a few months."

Building on this progress, the Settlement Management Committee (SMC), supported by the Missionary Church USA, secured an additional 20 Kattha of land for vegetable farming in 2024. The SMC's legal status reassured host communities, encouraging them to lease land to refugees through a formal institutional arrangement.

Financial support for the lease was provided by the Missionary Church USA, covering NPR 50,000 (USD 360) for the additionally secured land for the year. Now, refugees have supplementary farmland near their camp, guaranteed through their own institution, the SMC.

Refugees plan to engage in year-round farming, generating stable incomes and strengthening their long-term involvement in agriculture. According to a representative of the SMC, the cooperative-based land lease model empowered refugees and helped institutionalize land access strategies. The expectation is that, by next year, the SMC will secure land solely through its own investment, eliminating the need for external financial support.

## Scaling-up to vegetables farming

Encouraged by the early success in potato farming, the project shifted focus in its second year to capitalize on market opportunities for higher-value vegetables. Market research highlighted that those vegetables, characterized by quick returns, are ideally suited to Beldangi's favorable climate and encounter strong market demand. In response, the UNHCR-ILO collaboration expanded its support to refugee and host community farmers in Koshi Province through the following key components:

- **Awareness-raising:** three awareness-raising programs reached more farmers, including 86 refugees and 93 host community members, communicating about farming opportunities. The project awareness programs were integral in reaching out to the refugee and host communities and critical in selecting participants for the project interventions.
- **Voucher distribution:** the voucher scheme was reintroduced for high-quality organic seeds, bio-fertilizers, and bio-pesticides. In 2024, 100 farmers (50 refugees and 50 host community members) received vouchers. Recognizing the motivation among farmers to expand their commercial activities and the commercial incentives of agrovet shops to continue supplying higher-quality inputs to this newly reached market, the 2024 voucher initiative gradually reduced project subsidies. The farmer discount was adjusted from 50% to 40%, with 30% subsidized by the project and 10% covered by agrovet shops. This cost-sharing approach, combined with the agrovets' interest in retaining new customers, illustrates the sustainability of the model. Additionally, the initiative broadened its crop portfolio beyond potatoes to include maize, rice paddy, cabbage, cauliflower, and beans, supporting more diversified and resilient agricultural production.
- **Technical training:** comprehensive training sessions provided hands-on instruction on best practices to all those receiving the vouchers. These sessions included soil preparation, composting, line-bedding, mulching, and the proper use of high-quality inputs. Farmers also received guidance on identifying and managing plant diseases to maximize yield and minimize losses. Additionally, farmers were trained in producing organic fertilizers and bio-pesticides on the farm, which has significantly improved the quality and market value of their produce.
- **Market linkages:** besides the linkages with local agrovet shops, Mansarowar Agriculture Cooperative continued supporting refugees and host community farmers' access to vegetable distributors and wholesalers, ensuring that farmers could sell their entire harvest.
- **Land lease expansion**: Mansarowar continued leasing land and has scaled up the model with SMC's support. Building on reinforced trust between refugees and host communities and with financial backing from the Missionary Church USA, the SMC secured an additional 20 Kattha for vegetable farming in 2024.

The model initiated by the project proved to be sustainable because all actors have clear incentives:

- **The cooperative** benefits from sourcing more produce to sell off-season at higher margins and hence invests in refugees through land leasing and training
- **The agrovets** gain from increased sales of inputs and therefore invest in informing and training farmers
- **Refugees and host community farmers** now see that leasing land and purchasing quality inputs leads to higher and more profitable yields.

By aligning commercial incentives across the chain, the project facilitated behaviour change rooted in the wider system and created the conditions for long-term sustainability.

## Conclusion

By implementing market-based systemic interventions, the AIMS approach has demonstrated how refugee and host communities can achieve economic resilience. The success of this pilot sets a replicable model for inclusive agricultural development, ensuring that once donor support phases out, the market-driven mechanisms will continue to provide sustainable livelihood opportunities for both refugee and host community farmers in Nepal.

**International Labour Organization**
Route des Morillons 4
CH-1211 Geneva 22
**Switzerland**

T: +41 22 799 7239
E: iachan@ilo.org

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