



**IQLIM O'ZGARISHI SHAROITIDA O'RMONLARNING INSON  
HAYOTINI SAQLAB QOLISHDAGI STRATEGIK ROLI: GLOBAL  
EKOLOGIK XAVFSIZLIK VA BARQAROR KELAJAK OMILI**

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***Annotatsiya.*** Mazkur maqolada global iqlim o'zgarishi sharoitida o'rmon ekotizimlarining inson hayotini saqlab qolishdagi strategik ahamiyati ilmiy asosda keng yoritiladi. O'rmonlarning uglerod aylanishidagi roli, iqlimni tartibga solish mexanizmlari, suv va tuproq resurslarini muhofaza qilishdagi funksiyalari hamda ularning ijtimoiy-iqtisodiy barqarorlikka ta'siri chuqur tahlil qilinadi. Tadqiqot natijalari o'rmonchilikni rivojlantirish iqlim xavflarini kamaytirish, aholi farovonligini oshirish va ekologik xavfsizlikni ta'minlashning eng muhim strategik yo'nalishlaridan biri ekanini ko'rsatadi.

***Kalit so'zlar:*** iqlim o'zgarishi, o'rmonlar, ekologik xavfsizlik, barqaror rivojlanish, uglerod yutgichlari.

***Abstract.*** This article analyzes the strategic role of forest ecosystems in preserving human life under conditions of global climate change. The study examines forests' functions in carbon sequestration, climate regulation, protection of water and soil resources, and their contribution to socio-economic stability. The results demonstrate that strengthening forest management and conservation is one of the most effective strategies for mitigating climate risks and ensuring sustainable development.



**Keywords:** *climate change, forests, environmental security, sustainable development, carbon sinks.*

**Kirish.** XXI asr insoniyat tarixida iqlim o'zgarishi eng jiddiy global tahdid sifatida namoyon bo'layotgan davrdir. Yer sharida haroratning izchil oshib borishi, qurg'oqchiliklarning kuchayishi, suv resurslari tanqisligi va ekstremal tabiiy hodisalarning ko'payishi bevosita inson hayoti, sog'lig'i va iqtisodiy barqarorligiga ta'sir ko'rsatmoqda. Ushbu jarayonlar fonida iqlim o'zgarishini faqat ekologik muammo sifatida emas, balki insoniyat xavfsizligiga tahdid soluvchi strategik masala sifatida ko'rib chiqish zarurati yuzaga kelmoqda.

Shu nuqtai nazardan, o'rmon ekotizimlari global iqlim tizimining ajralmas va hal qiluvchi tarkibiy qismi hisoblanadi. O'rmonlar atmosferadagi issiqxona gazlarini yutish, mahalliy va mintaqaviy iqlimni tartibga solish, suv va tuproq resurslarini muhofaza qilish orqali inson yashash muhitining barqarorligini ta'minlaydi. Ayniqsa, agrar hududlarda o'rmonlarning mavjudligi qishloq xo'jaligi samaradorligi, oziq-ovqat xavfsizligi va aholi farovonligi bilan chambarchas bog'liq.

Bugungi kunda o'rmonlarning qisqarishi va degradatsiyasi iqlim o'zgarishi oqibatlarini yanada kuchaytirib, ekologik va ijtimoiy-iqtisodiy xavflarni keskinlashtirmoqda. Shu bois, o'rmonlarni muhofaza qilish va barqaror boshqarish masalasi inson hayotini saqlab qolishga qaratilgan uzoq muddatli strategik vazifa sifatida dolzarb ahamiyat kasb etadi. Mazkur maqolaning maqsadi iqlim o'zgarishi sharoitida o'rmonlarning inson hayotini saqlab qolishdagi strategik rolini ilmiy asosda tahlil qilish va ularning global ekologik xavfsizlikdagi o'rmini yoritishdan iborat (1-rasm).

**To address climate change we must focus on forests**

We can't limit global warming to well below 2°C without using the potential of forests, and their ability to absorb and store carbon dioxide. Payments for reducing greenhouse gas emissions from deforestation and forest degradation (REDD+) encourage developing countries to keep forests standing.

**What is REDD+ readiness and why does it matter for climate change?**

REDD+ refers to countries' efforts to reduce emissions from deforestation and forest degradation. Forests are an important "carbon sink" for greenhouse gas emissions, meaning they directly remove carbon dioxide from the atmosphere. When we cut down a tree, not only do we lose a carbon sink, but all the carbon dioxide stored in that tree is released into the atmosphere.

**Through the Forest Carbon Partnership Facility (FCPF), countries work at the global, national and jurisdictional levels to set up the building blocks for REDD+, while protecting biodiversity and livelihoods.**

REDD+ activities, when linked with large-scale emission reductions programs, can help address climate change.

**GLOBALLY, FCPF IS:**

- Establishing REDD+ methods, principles and technical guidance
- Assessing the benefits of REDD+ for the world's economy
- Facilitating REDD+ learning and knowledge sharing

**NATIONALLY, FCPF SUPPORTS:**

- GOVERNANCE**  
Institutional arrangements, legal and regulatory frameworks, social and environmental safeguards, stakeholder engagement and participation
- TRACKING**  
Monitoring, measurement, reporting and verification, reference levels, REDD+ readiness
- IMPLEMENTATION**  
Strategies to address drivers of deforestation and forest degradation, accessing finance, setting up benefit sharing mechanisms

**LOCALLY, FCPF HELPS IMPROVE:**

- Forest governance
- Ecosystem services
- Climate change adaptation
- Economics and livelihoods
- Social and cultural values

**WHAT'S NEXT FOR REDD+?**

- Scaling up implementation
- Increasing investments
- Strengthening links with broader land use issues

Learn more at [www.forestcarbonpartnership.org](http://www.forestcarbonpartnership.org)

**FOREST CARBON PARTNERSHIP**

**Materiallar va usullar (Materials and Methods).** Tadqiqot davomida tizimli tahlil, qiyosiy va mantiqiy baholash metodlaridan foydalanildi. Iqlim o'zgarishi va o'rmon ekotizimlariga oid xalqaro ilmiy adabiyotlar, ekologik

hisobotlar hamda amaliy o'rmonchilik tajribalari o'rganildi. Metodologik yondashuv quyidagi yo'nalishlarni o'z ichiga oldi:

- o'rmonlarning ekologik funksiyalarini kompleks baholash;
- iqlim xavflari va o'rmon degradatsiyasi o'rtasidagi bog'liqlikni aniqlash;
- mintaqaviy tahlil asosida umumlashtirilgan xulosalar chiqarish;
- o'rmonchilik siyosatining iqlimga moslashuvdagi rolini tahlil qilish.

Mazkur metodlar o'rmonlarning iqlim barqarorligidagi strategik ahamiyatini xolis va ilmiy asosda yoritishga xizmat qildi (2-rasm).

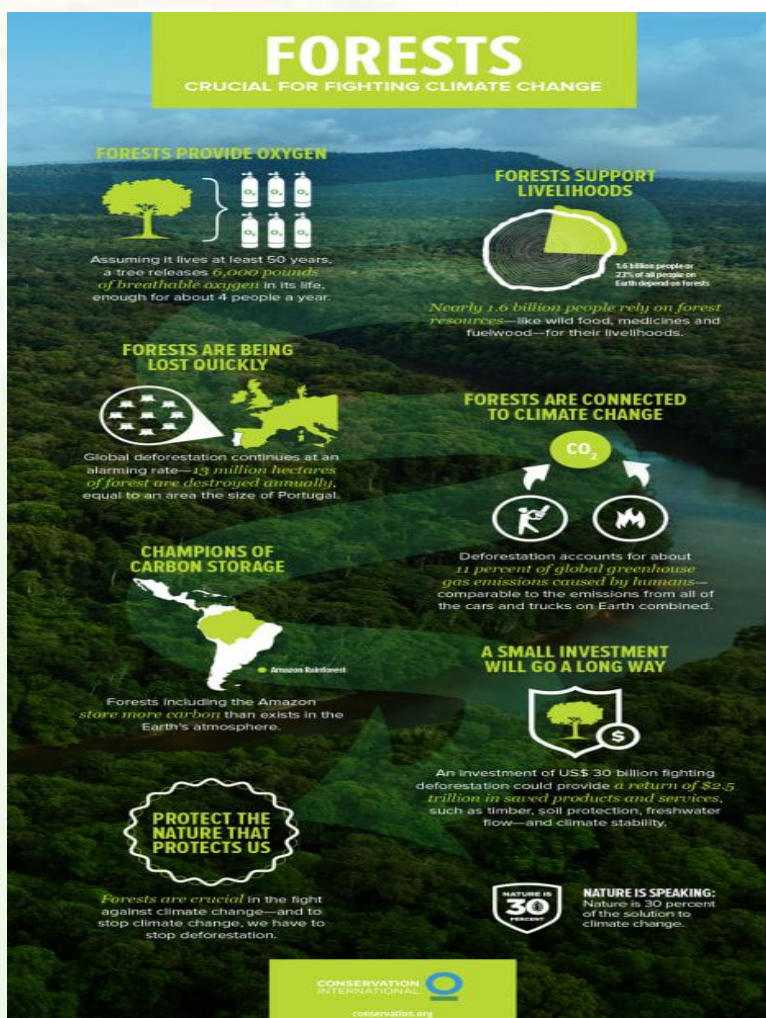


2-rasm: O'rmonlar iqlim o'zgarishiga qarshi tabiiy mexanizm sifatida CO<sub>2</sub> yutadi va iqlim barqarorligini ta'minlaydi

**Natijalar (Results).** Tadqiqot natijalari shuni ko'rsatdiki, o'rmonlar iqlim o'zgarishi sharoitida inson hayotini himoya qiluvchi bir necha muhim funksiyalarni bajaradi. Birinchidan, o'rmonlar global uglerod balansida asosiy tabiiy yutgich



hisoblanadi. Daraxtlar fotosintez jarayonida karbonat angidridni yutib, atmosferadagi issiqxona gazlari miqdorini kamaytiradi. Ikkinchidan, oʻrmonlar mahalliy va mintaqaviy iqlimni barqarorlashtiradi. Ular havoning namligini oshirib, harorat keskin oʻzgarishining oldini oladi va qurgʻoqchilik xavfini pasaytiradi. Uchinchidan, oʻrmon ekotizimlari suv resurslarini muhofaza qiladi. Yogʻingarchilik suvining tuproqda saqlanishi va yer osti suvlarining toʻyinishi bevosita oʻrmon qoplami bilan bogʻliq. Toʻrtinchidan, oʻrmonlar tuproq eroziyasining oldini olib, agrar yerlarning unumdorligini saqlaydi va oziq-ovqat xavfsizligini taʼminlashga xizmat qiladi (3-rasm).



**3-rasm.** Oʻrmonlarning iqlim oʻzgarishini sekinlashtirishdagi mexanizmlari: karbon yutish, namlik aylanishi va ekstremal ob-havo hodisalarini kamaytirish.



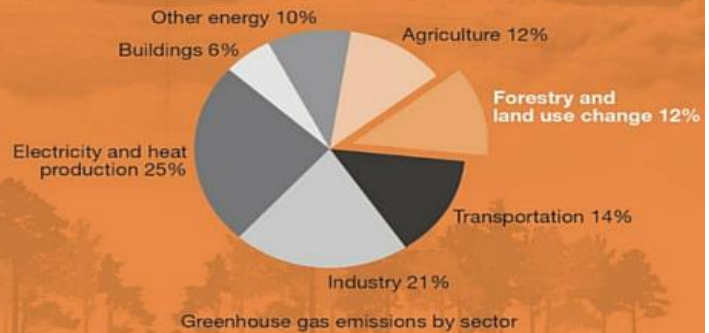
**Muhokama (Discussion).** Ushbu tadqiqot natijalari shuni ko'rsatadiki, o'rmonlar iqlim o'zgarishiga qarshi kurashda faqat ekologik obyekt emas, balki inson hayotini saqlab qolishga xizmat qiluvchi strategik tizim sifatida baholanishi lozim. Muallif pozitsiyasiga ko'ra, bugungi kunda o'rmonchilikka bo'lgan munosabat resurslardan foydalanish yondashuvidan hayotni muhofaza qilish konsepsiyasiga o'tishi zarur.

Iqlim xavflari kuchayib borayotgan sharoitda o'rmonlarning qisqarishi suv tanqisligi, agrar ishlab chiqarishning pasayishi va ijtimoiy beqarorlikni keltirib chiqarmoqda. Bu holat o'rmonchilikni ikkilamchi soha sifatida emas, balki milliy va global xavfsizlikning muhim elementi sifatida ko'rishni talab etadi. Ayniqsa agrar hududlarda o'rmonlarning mavjudligi aholi daromadlari, oziq-ovqat barqarorligi va ekologik muvozanat bilan bevosita bog'liq.

Muallifning fikricha, barqaror o'rmon boshqaruvi ilmiy tadqiqotlar, davlat siyosati va mahalliy hamjamiyat manfaatlari uyg'unligiga asoslanishi lozim. Aks holda, iqlim o'zgarishining salbiy oqibatlari nafaqat tabiiy muhitga, balki inson hayotining barcha jabhalariga chuqur zarar yetkazadi. Shu jihatdan, o'rmonchilikni rivojlantirish kelajak avlodlar hayotini himoya qilishga qaratilgan uzoq muddatli strategik sarmoya sifatida qaralishi zarur (4-rasm).

## FORESTS SLOW CLIMATE CHANGE AND INCREASE RESILIENCE

Forests provide a critical carbon sink. It is eroded however by deforestation and forest degradation.



Sustainable management of rural landscapes can reduce pressure on forests.



About 2 billion hectares of degraded forest land could be restored to functional, productive ecosystems that help fight climate change.

In Niger, planting nitrogen-fixing trees among crops increased sorghum yields by 20–85% and millet yields by 15–50%, while enhancing people's resilience in times of drought.



By integrating trees on their farms, cattle ranchers in Colombia, Costa Rica and Nicaragua increased average milk productivity by 18%, decreased soil erosion by 88%, and increased their net income per hectare by 55%.

Restoring just 350 million hectares of forest could produce an estimated \$170 billion of yearly benefits in watershed protection, agricultural productivity, and forest products.



In Ethiopia, the restoration of native forest in Humbo will absorb about 880,000 metric tons of CO<sub>2</sub> over the next 30 years, generating carbon payments and income from forest products.

Sources: Pan, Y. et al. (2011). A large and Persistent Carbon Sink in the World's Forests; IPCC (2014). Summary for Policymakers, Climate Change 2014: Mitigation of Climate Change; Hosonuma N. et al. (2012). An assessment of deforestation and forest degradation drivers in developing countries. Environmental Research Letters; Global Partnership on Forest Landscape Restoration (2011); World Bank (2011). Climate-smart Agriculture: a call to action; World Bank (2008). Colombia, Costa Rica, and Nicaragua—Integrated Silvopastoral Approaches to Ecosystem Management Project—Implementation Completion Report; New Climate Economy (2014). Better Growth, Better Climate: The New Climate Economy Report; World Bank (2013) Ethiopia Humbo Community Based Natural Regeneration Project—Implementation Status Result Report.

**4-rasm.** Oʻrmonlarning inson hayoti va barqaror rivojlanish bilan oʻzaro bogʻliqligi: ekologik, ijtimoiy va iqtisodiy foydalar majmuasi.

**Xulosa (Conclusion).** Mazkur tadqiqot iqlim oʻzgarishi sharoitida oʻrmonlar inson hayotini saqlab qolishda hal qiluvchi strategik ahamiyatga ega ekanini ilmiy asosda tasdiqlaydi. Oʻrmon ekotizimlari issiqxona gazlarini yutish, iqlimni



barqarorlashtirish, suv va tuproq resurslarini muhofaza qilish orqali ekologik xavfsizlikni ta'minlaydi.

Muallif pozitsiyasiga ko'ra, o'rmonlarni muhofaza qilish va kengaytirish bugungi kun uchun tanlov emas, balki majburiy zaruratdir. Chunki o'rmonlarning degradatsiyasi iqlim xavflarini kuchaytirib, inson hayoti va farovonligiga bevosita tahdid soladi. Shu bois, o'rmonchilikni ilmiy asosda rivojlantirish va uni davlat siyosatining ustuvor yo'nalishlaridan biriga aylantirish kelajak avlodlar manfaatlarini himoya qilishning eng samarali yo'llaridan birdir

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